

# digit **FastTrack**

YOUR HANDY GUIDE TO EVERYDAY TECHNOLOGY

## TO **GAMING CONSOLES**

❖ HISTORY OF GAMING CONSOLES

❖ HANDHELD GAMING CONSOLES

❖ Microsoft Xbox 360

❖ Nintendo Wii

❖ Sony PS3

❖ VIDEO GAMING CONSOLES

❖ Popular titles

❖ Nintendo DSi

❖ Sony PSP

❖ THE FUTURE OF GAMING





to

# Gaming Consoles

By Team Digit

# CREDITS

## The People Behind This Book

### EDITORIAL

Editor	Robert Sovereign-Smith
Head-Copy Desk	Nash David
Writer	Mihir Patkar

### DESIGN AND LAYOUT

Lead Designer	Vijay Padaya
Cover Design	Jayan Narayanan

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# Introduction

There is hardly a person you would meet today who has never played a video game in his life. From the old video game arcades to the modern home consoles and portable handheld units, the popularity of this medium cannot be denied.

Yet, video games come with a tainted image, especially in India. There's a common misconception that they are for kids, and not the domain of adults. This is compounded by activists who say that these games make children more violent, show inappropriate graphic content, etc. In a way, it's almost like someone took all the arguments against the TV in the last few decades and changed it to 'video games'.


If anyone actually looked at the tons of research available on all of the above accusations, they would find that video games are more than just a few minutes of escapist fun. Apart from refining hand-eye coordination, gaming helps in exercising the mind, builds team-play skills in multiplayer games and average gamers have been found to be better at strategising than non-gamers. As for inappropriate content, there are 'intended user' ratings for games similar to the ones for movies.

This is not to say that video games should be played night and day, but to use it moderately like any other thing. Like any activity, if gaming is pursued in excess of normal bodily limits, you will end up harming yourself.

Quantifying gaming in India faces a peculiar problem due to the grey market here. Gamers predominantly use the PC, mostly because of the high piracy rates on that front. Sony's PlayStation 3 console has not been cracked yet and while Microsoft's Xbox 360 offers that option, the number of bugs that can render it obsolete mean that a lot of gamers prefer to keep their warranty intact.

Additionally, the grey markets sell the consoles themselves at a significantly lower price than the retail ones. A large percentage of sales for the Nintendo Wii, which can be easily cracked and used with pirated games, come exclusively from the grey markets. This leads to a lot of console sales that don't get accounted for either.

So while sales figures show the console market as being a lot bigger than the PC one, they aren't entirely representative of the actual truth, as they do not account for piracy at all.

However, the console market that these sales figures do account for is quite large in itself and cannot be ignored. Plus, with increased rates of adoption and better economic conditions, console gaming is on the rise...

# 1 The history of video game consoles

The recent economic recession has taken its toll on every single industry in the world, and up until recently, only the video game industry seemed to have bucked the trend. While JP Morgan downed its shutters and people scattered helter-skelter looking for jobs, game console manufacturers were sitting pretty with some high sales numbers.

Understanding what makes them tick requires a fair knowledge of the history of this 37-year-old industry (yes, thirty-seven!). Fortunately, your good friends here at Digit have never shied away from flexing unnecessary knowledge about irrelevant geeky facts.

The first video game console for home usage was the Magnavox Odyssey, was released on May 24, 1972. However, as far as the public at large is concerned, the first 'true console' was Atari's 'Pong', created by founder Nolan Bushnell, who is known as the father of video games. Pong was released for home use in 1975, although its idea was taken from a similar game in the Odyssey.



While Magnavox Odyssey is technically the first console, home video games came into the spotlight with Atari's Pong

The Pong console, at the time, was little more than a motherboard and chip with the single Pong game running on it, with two crude controllers attached to the device. However, little did they know that this was to set up the future of a multi-billion-dollar video games industry.

The next significant step forward for video game consoles came in 1983, with the launch of the Nintendo Entertainment System (NES) in Japan, which was subsequently taken to the US and European markets in 1985 and 1986, respectively.

If the Atari and Pong gave birth to home-based video game consoles, the NES can be credited with making the video game console a part of 'family entertainment'. Video games, which were often seen as something for the kids,

received a boost with the vision of legendary game developer Shigeru Miyamoto, who infused life into gaming by blending art and story-telling into the mixture.

Names like *Super Mario Bros* and *The Legends of Zelda* quickly became known across the world and in every home, even those in India. And true to Miyamoto's vision, the games transcended all ages, sexes and other demographics to truly reach out to the family at large.

In fact, one of this author's earliest memories is that of his father's daily morning routine of 'tea, newspapers, quick round of *Super Mario Bros 3*, shower, breakfast, leave for office'.

During the era of the NES, the power scales of the video game industry shifted. Nintendo now reigned supreme, with Sega catching up fast. Atari, the market leader for all these years, was now relegated to an 'also-ran' slot and was eventually never able to get out of that rut.



NES brought the idea of 'family entertainment' to the world of video games



16-bit gaming came with the Sega Genesis (pictures) and the Super NES

After the hoopla surrounding the NES died down, PCs became the weapon of choice for most gamers, as graphics on the computer began improving rapidly. The console industry needed to come up with a reply quickly, and this was provided by Sega in the form of the first 16-bit console, the Sega Genesis, in 1989.

This launch was soon followed by Nintendo releasing the 16-bit Super NES (SNES) two years later, sparking the first of the video game console wars, complete with pot shots, fake marketing claims and the works!

The jump to 16-bit chips, however, still did not bring high-quality 3D graphics to video games. Most of the games for consoles were still 2D, with the occasional title such as *Virtua Racing* demonstrating the possibilities of upcoming 3D technologies.





Nintendo's GameBoy ushered in the era of handheld video games

At this time, Nintendo also kick-started the handheld gaming console market with its Game Boy. The console was virtually unchallenged, although Sega's Game Gear and Atari's Lynx tried to compete for a very, very short while.

The shift to high-quality graphics finally happened in 1994-95, when Sony released the PlayStation and Nintendo came out with the Nintendo 64. Sega, a strong competitor up until this point, launched the Saturn and was quickly destroyed by an increasingly unforgiving market.

The 32-bit PlayStation and the 64-bit Nintendo 64 (N64) sparked a visual war, with 3D graphics finally coming to the forefront of games.

This also led to a different kind of battle between the PlayStation and N64, with the two consoles' formats of choice leading to Sony getting the better end of the deal.

The Nintendo 64 used cartridges instead of CDs, thus resisting piracy but at the cost of speed and storage. The PlayStation's decision to use CDs eventually proved to be the factor that led many game developers – such as SquareSoft, the makers of the *Final Fantasy* series – to switch to the PlayStation as the console of choice.



Along with 32-bit gaming, Sony PlayStation and Nintendo 64 finally brought 3D gaming to homes across the world

This round went to the PlayStation and Sony was suddenly at the top of the video game console war with its first foray into the market.

At the same time, in the handheld console world, Nintendo upped the ante with the 'GameBoy Color', which beat its entire opposition into submission. Sega had banked on its *Nomad* finally doing well, but the GameBoy Color almost made the

handheld video game market a monopoly.

The next 'generation' of consoles emerged in the period 1998 to 2001, with graphics becoming the point of contention as multimedia playback increasingly gained ground.

The struggling Sega gave it one last shot with the DreamCast, and subsequently withdrew from the console market for good.

Nintendo's loss in the last battle due to the cartridge format saw the company release its first disk-based console, the GameCube. The graphics and processing power, however, never competed with Sony's PlayStation 2, and the latter started a period of rule that was to last for many years.

The PlayStation 2, released in 2000, went on to become the most widely sold video game console of all time, racking up 132 million sales, so far.

The next year, Microsoft decided to throw its hat into the ring with its first hardware venture, the Xbox. Based on Intel's Pentium III CPU, the console used much PC technology to leverage its internal development.



Gameboy Color



The DreamCast was Sega's last chance of survival



The Metal Gear Solid series was associated with PS2

The PS2 and Xbox also cemented an emerging trend among developers to sign up for exclusive deals with console manufacturers; the *Metal Gear Solid* series became a trademark for the PS2 while Xbox relied on the mega-hit Halo as its premier title.

Between the time the PS2 and the Xbox were engaged in their epic battle and waiting to come out with the next generation of consoles, Sony was busy preparing to enter the handheld gaming industry.

The PlayStation Portable was

finally launched in December 2004, just a month after Nintendo launched its DS. The two consoles had gone in completely different directions, as the PSP banked on better graphics and more horsepower to deliver great visuals, while the DS sought to take a more 'fun' approach to gaming.

This philosophical shift would continue into the next generation of video game consoles that the three giants of the industry came out with: the current lot of the Sony PlayStation 3, the Microsoft Xbox 360 and the Nintendo Wii.

For all that you would ever need to know about these three video game consoles, as well as the two current handheld gaming consoles, read on...d



In the last generation of consoles, Sega sang its swan song with the Dreamcast while Sony's PS2 won hearts across the world; meanwhile, Microsoft stepped into the market with the Xbox

## 2 Video Game Consoles

### 2.1 Sony PlayStation 3

Without a doubt, the most highly anticipated product in this generation of consoles was Sony's PlayStation 3 (PS3). The original PlayStation and the PlayStation 2 had already been mega-hits, and with Microsoft upping the ante with the Xbox 360, the world was ready for Sony to take it head-on.

And what a reply it was! Sony came out with what it regularly touted as a mini-supercomputer and its foray into the 'convergence box' – a central multimedia and computing device to replace all others in a household. The PlayStation 3 first launched in Japan on November 11, 2006, and sold 81,639 systems within 24 hours, according to Media Crate.

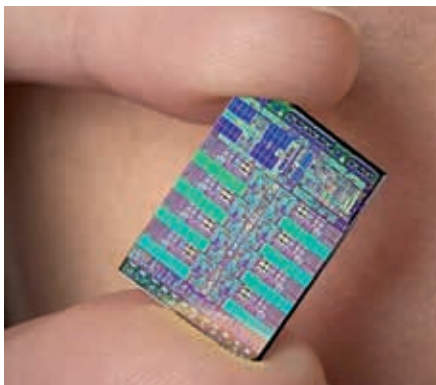
#### 2.1.1 HARDWARE

##### Cell Processor

At the core of everything that the PS3 stands for is the awesome processor that was custom-built for it, dubbed the 'Cell Processor'.

The story goes that after launching the PS2, Sony executives wanted their next console to have the capability of outperforming the ever-increasing hardware of computers around it. The processor – the heart of any computing – was narrowed down as the one aspect to concentrate on and make it unbeatable.

The company then approached IBM, the world's leading makers and innovators of chips, to build a processor that would be two generations ahead of the PC processors prevalent at the time. IBM was glad to oblige, but asked for a little help. In 2000, an alliance called STI was formed between IBM, Sony Computer Entertainment and Toshiba, who together worked on the design of the Cell Broadband Engine Architecture (CBEA), commonly known as the Cell microprocessor. The first chip was tested in the STI Design Centre at Austin, Texas. And the first real application, of course, was in the PlayStation 3.



The PS3's heart can run eight processes in parallel, making it the fastest home-use processor on the planet. And hey, it's being used by scientist for super-computers too!

Getting into the technical aspects of the Cell Processor would entail a lesson in microprocessor technology, with phrases like ‘Power Processor Element’ and ‘Synergistic Processing Elements’ being thrown about every couple of sentences.

In layman’s terms, the Cell Processor is an eight-core processor, which means that it can compute eight different processes at the same time – a fantastic achievement to improve the speed of computing. Each of these eight ‘cores’ is also fitted with 256 KB of memory for local storage when processing an instruction.

The biggest problem for IBM with building such a chip was in figuring out how to use each core to the fullest. The introduction of a ‘Resource Allocation’ algorithm solved this problem by ensuring that the PS3 is smart enough to determine which cores are being used at a time and allot new operations accordingly.

In the end, the 64-bit architecture, coupled with the 3.2 GHz core clock speed and the 256x8KB of storage, translates to some awe-inspiring computational speeds.

The Cell Processor, in theory, can be over-clocked to 4 GHz quite easily, but since the PS3 runs at 3.2 GHz, that is the most commonly cited clock speed for it.

A worrying factor for such a high-powered processor is over-heating. In the PS3, Sony managed to make room for a high-quality heat-sink that enables the Cell Processor to run smoothly at temperatures as high as 85 degrees Celsius.

Now, with these kinds of speeds, the amount of reliance on other factors of computing, such as the RAM or the graphics card, is substantially reduced. Not that it stopped Sony from coming out with a jaw-dropping graphics chipset...

### RSX Reality Synthesizer

Just as Sony went to the leaders of the chip-making world for its Cell Microprocessor, it went to the leaders of the graphics processing unit (GPU) manufacturers for the PS3’s graphics card. Nvidia was glad to help out in building

what Sony eventually called the ‘Reality Synthesizer RSX’ graphics unit.

At that time, Nvidia was busy preparing for its own 7000-series of graphics card and had already come out with the G70 base architecture for its premium model, the GeForce 7800GT. Sony liked what it saw and went with that – not a future-proof graphics card, for sure, but the company didn’t feel the



More powerful than two GeForce 6800 Ultra cards put together (and that’s together, not SLI)

need to do that because of the Cell Processor taking on a large amount of the graphics processing responsibilities.

The chip was ready quickly, running at a core clock of 550 MHz and utilising 256 MB of video memory. Nvidia and Sony often touted the power of the RSX by saying it was more powerful than two GeForce 6800 Ultra graphics cards combined.

The RSX can easily output resolutions of up to 1080p; but an important feature is its upscaling ability. When you put in a regular DVD or VCD, the PS3 uses the incoming video data to send the information to the RSX, which refines the image quality when playing it back. For multimedia lovers and especially fans of old Hindi movies, this is a godsend!

With the 256 MB of memory here and the 256 MB of dedicated memory on board the PS3, the RAM is pretty much the only part of the console that is a downer in an otherwise magnificent hardware setup.

### Blu-Ray ROM

The PlayStation 3 was also to introduce Sony's new format for optical disks, dubbed Blu-Ray. By now, the war between Sony's Blu-Ray and Toshiba's HD-DVD is long over with the former emerging triumphant, but at the time of the PS3's launch, it was a big deal indeed!



The next-generation optical disc promises games at a more rapid pace and with loads of extra content.

Sony was touting these disks as the future of multimedia, and gaming in particular, with a single Blu-Ray disk being able to store over 30 GB of data.

The next-generation optical disk promised games at a more rapid pace and with loads of extra content.

Why would a Blu-Ray ROM affect release dates of games? Well, a large portion of developing a video game is in figuring out how to fit millions of lines of programming into the tiny 4.5-9 GB DVDs that are currently available. If a disk allowed programmers to not go through the shrinkage process, the ability to release a game becomes that much faster.

### Hard Disk

The PS3 comes with different-sized hard disks, ranging from 20 GB right up to 80 GB. The coolest part about the PS3 is that it uses a standard 2.5-inch SATA hard disk. This means that as long as you find a model that is compatible with the PS3,

you could easily replace the current hard disk with a larger-capacity offering.

Now, be advised that doing so might void your warranty, and so you should only be taking on the task if you know what you are doing. Refer to a few online tutorials and videos before you decide to go in for bigger storage!



Apart from boasting of large storage capacities, the PS3 hard disk also offers the unique proposition of letting users throw in their own 2.5-inch drive.

### Connectivity

Since the PlayStation 3 was always targeted at being a convergence box, Sony had thrown in a lot of connectivity options into the system.

For connecting to a television, a monitor or a projector, the user can use either an HDMI or component cable. While the PS3 can be connected to multiple screens at a time through these ports, dual-screen modes are not supported as of now.

For the internet, a PS3 can be connected to a standard Gigabit Ethernet cable via a port at its back, or use the built-in Wi-Fi chip to latch on to a signal.

The PS3 also has Bluetooth v2.0 with A2DP built into the system, which is used to connect to the controllers or any other accessories wirelessly. At any one time, the PS3 can support up to seven controllers.

In case a user wants to transfer data from an external hard disk or a USB drive, the two USB ports at the front will come in handy. This provides an easy way to back-up your saved games and other data, although the need for it is greatly reduced by the large hard disks.

Some versions of the PS3, such as the 60 GB and the 80 GB units, also come with a 5-in-1 memory card reader. This supports most of Sony's proprietary formats and SD cards, but you will need



A side-view of the PS3 showcases its several ports for connectivity

an adapter to connect a microSD card.

### 2.1.2 ACCESSORIES

#### SixAxis and DualShock 3 Controllers

Upon the launch of the PlayStation 3, the most disappointing aspect for everyone involved was the new SixAxis controller. Sony had stuck with the design of the DualShock 2 controller from the PlayStation 2, and had made a couple of interesting additions as well as a few perplexing changes.

First of all, the SixAxis came with built-in motion-sensing technology. This feature was often criticised as a last-minute add-on by Sony to compete with Nintendo's Wii, and it could be clearly seen by how little the games that came out for the PS3 used the motion sensors. The name of the controller is derived from the fact that it can sense both rotational orientation and translational acceleration along all three dimensional axes, providing six degrees of freedom.

Another noticeable feature of the SixAxis was that the weight of the controller had gone down substantially. This could be chalked up to the fact that vibration



The SixAxis controller was formerly devoid of vibration feedback, but Sony soon launched the feature in an identical gamepad called the DualShock 3

feedback was completely missing in the SixAxis. Sony claimed that vibration messed with the motion sensors, and thus it was a conscious decision to discontinue that aspect. The trust, of course, was a little bit different as this reasoning came while Sony was involved in a legal battle with Immersion Corporation, who had successfully sued the company for patent infringement. The lack of vibration feedback is seen as a major cause of disgruntlement among PS3 loyalists, and cited by Xbox executives as a reason that some people opted for their console over Sony's.

Still, not all about the new SixAxis was bad. For one, it introduced a new rechargeable battery that claimed to operate for up to 30 hours on a full charge. Actual tests have shown this to be more around 20-25 hours, but that is still a



respectable number by any yardstick. The battery can be charged by connecting the controller to the PS3 through the simple microUSB cable provided with the gamepad. The best part about the battery is that it can be easily replaced once its battery life is up, thus enabling you to save costs on buying a new controller.

In terms of design, very little changed in the transition from DualShock 3 to SixAxis, with Sony retaining the same eight-button layout (Cross, Square, Triangle, Circle, R1, R2, L1, L2), four-way navigational pad and dual analogue sticks. The one change, though, were the R2 and L2 buttons, which now bore a trigger-like mechanism instead of the former rounded edges.

However, at the 2007 Tokyo Game Show, Sony announced that it would be phasing out the SixAxis in favour of the new DualShock 3, which will feature vibrational feedback. Never once addressing all the allusions to motion sensing, Sony's new controller has been widely welcomed by the gaming community.

However, with the vibration feedback, the weight of the DualShock 3 has gone up dramatically, being almost 50 percent heavier than the SixAxis. Sony is now packaging it with most new PS3 units being sold.

### PlayStation Eye

Before Microsoft and Nintendo ever got serious with tracking motion-based features for gaming, PlayStation had already been in the market with the EyeToy for PS2. The popular accessory got an upgrade for the PS3, dubbed the PlayStation Eye, which features more sensitivity and faster feedback.

Trumpeting the 'bigger and better' horn, the PlayStation Eye claims to record 640x480 pixels VGA video at frame rates of 60 Hz and 320x240 pixels video at 120 Hz – twice that of the EyeToy.

The camera features a two-setting adjustable fixed focus zoom lens. Selected manually by rotating the lens barrel, the PlayStation Eye can be set to a 56° field of view similar to that of the EyeToy, for close-up framing in chat applications, or a 75° field of view for long shot framing in interactive physical gaming applications.

The PlayStation Eye also has a built-in microphone that can be used for voice



Before the Wii and Project Natal, Sony was already rocking some motion-input games with the PlayStation Eye Webcam

tracking and background noise suppression, and most importantly, audio chat! Because of its high sensitivity in tracking the user's voice, the PlayStation Eye can easily replace a headset as your mike of choice.

It features EyeCreate video editing software, which enables users to capture pictures, video, and audio clips directly to the memory unit of the PlayStation 3 console. EyeCreate features a variety of different capturing modes, including stop motion and time-lapse. Through the software, users can edit, save, and share their own custom images, movies, and audio content.

### Wireless keypad

Since the PS3 was always meant to take over the computer, the introduction of a wireless keyboard was only a matter of time, as without it, browsing the internet is nearly impossible. And of course, with the introduction of PSN Home and other clients, gamers needed a way to be able to chat with each other.

So, last year, Sony came out with a clip-on keyboard for the SixAxis or DualShock 3 controller, which frankly made the whole unit remind us a bit of Darth Vader!

The peripheral is quite ugly and tips the weight of the controller forward by an unhealthy amount. Plus, since it comes right above the L1 and R1 buttons, switching between the four forward-facing buttons invariably ends up with your fingers scraping the bottom of the keypad.

Altogether, it's quite an ugly and annoying experience and we don't really recommend it. However, if you are interested in a wireless keyboard for your PS3, you would do well to check out the Logitech Cordless MediaBoard Pro. Sweet!

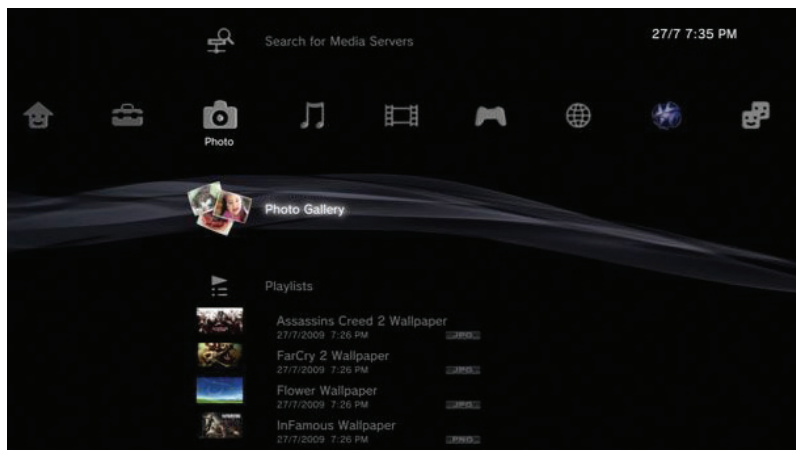


The quickest way to chat on the PS3

## 2.1.3 INTERFACE

### Xross Media Bar

The main graphical interface of the PlayStation 3 is known as the Xross Media Bar (XMB), pronounced as 'Cross Media Bar'. The interface is based on the XMB that was developed for the PlayStation Portable.



The XMB is fully controlled by the SixAxis or the DualShock 3, and uses 10 main categories to start off with: Users, Settings, Photo, Music, Video, Game, Network, PlayStation Network, PlayStation Home and Friends.

Sony also hit upon an innovative way to make the XMB wallpaper vibrant: the background of the XMB changes its colour on the 15th and 24th of each month, while the brightness of the colour changes its shade throughout the day. Of course, users can always select a background colour and shade and make it permanent, or use an image stored on their hard disk as the permanent wallpaper.

The XMB is fully controlled by the SixAxis or the DualShock 3, and uses ten main categories to start off with: Users, Settings, Photo, Music, Video, Game, Network, PlayStation Network, PlayStation Home and Friends. If you have the PlayTV tuner add-on installed, another option called 'TV' shows up as well.

This menu can be operated using the left and right keys on the navigational pad of the controller, with a pause upon any of the ten categories opening up a drop-down list of tasks you can perform in that category. To select an item, press X, while to return to the previous item, press O.

For example, with games, you could either play the game on the disk that is currently loaded in your Blu-ray ROM, or you could play a demo of some other game; and if you have downloaded any title from the PlayStation Network, that can also be accessed from here.

The PS3 includes the ability to store various master and secondary user profiles, manage and explore photos with Photo Gallery or an ordinary musical/non-musical slideshow, rip audio CDs, rip iTunes AAC protected files, play music and copy tracks to an attached storage device, play movies and video files from the hard disk drive, an optional USB mass storage or Flash card, or an optical disk. The 'Friends' menu allows email with emoticons and attached picture features and video chat which requires an optional Webcam. The PlayStation Network menu

allows online shopping through the PlayStation Store.

### The PlayStation Network

Online multiplayer game-play is a huge part of modern video gaming. Sony had realised this trend and sought to create an interface that acts as a platform for gamers to be able to meet other gamers, keep in touch with each other, browse the iInternet and spend points and money in an online store. Thus, the PlayStation Network (PSN) was born.

The best part about PSN is that it is completely free. While Microsoft went for a paid revenue model with the Xbox Live service, Sony realised that getting users online was paramount and all revenue would be made from sales in the PlayStation Store and through advertising.



The best part about PSN is that it is completely free

The PSN has five main categories: Sign Up, Game, PlayStation Store, Friends and Internet Browser.

There are two types of PSN accounts: master accounts and sub accounts. Master accounts can be created by a registered user of a specified age or older, and holders can adjust settings such as monthly spending limits or restrictions on voice/video chat for associated sub accounts. Sub accounts can be used by anyone, including minors, and are monitored by the associated master account holder. Sub account holders cannot create wallets but can make use of the wallet for the associated master account to pay for products and services.

In the PlayStation Store, users can download and buy various content such as full games, add-on content, playable demos, themes and game and movie trailers. The PS Store uses real-world currency of the country that the user is in; so when you are using the Indian PSN, all your transactions will be in rupees. The amount of money you have can be controlled through the virtual 'wallet', to which you can add and delete funds.

In case online transactions scare you due to privacy concerns, PlayStation also has Network Cards available that users can buy in physical form and use the digital currency stored on them.

### PlayStation Home

The idea of online avatars and social networking has really caught on with the advent of virtual worlds such as Second Life. Seeing their popularity, Sony wanted



Virtual avatars let you create a second life with the PlayStation Home

in on it and created PlayStation Home – a virtual world that lets PSN users create a personalised avatar, have their own apartment (called Personal Space), meet other players, etc.

The user can create their own avatar or use one of several preset avatars available in Home. Users can access the Wardrobe from the Menu Pad at any time and location except when in another user's personal apartment. They may customise a variety of the character's features including gender, skin tone, hair, body shape and facial structure.

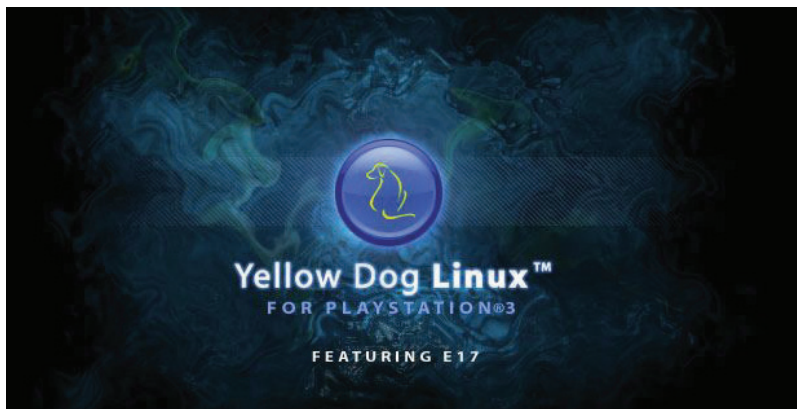
The avatar's clothing and accessories can also be customised using a set of standard items, bought from one of the clothing shops in Home's shopping complex, or won items from Home's mini-games or PS3 games that support Home rewards. The user has the ability to save up to nine versions of their avatar for quick access at any time.

### 2.1.4 WHY IT RULES

Linux YellowDog – for techies, the most interesting feature of the PlayStation 3 was the fact that it ran on the open source Linux operating system. And what's more, Sony executives encouraged developers to build Linux distros for the product!

TerraSoft (now FixStars) was among the first to take up the challenge, releasing a fully-functioning version of the popular YellowDog Linux for the PS3.

Many enthusiasts quickly loaded the OS onto the console and were amazed at



The PS3 could very easily function as a full-fledged PC

how well it ran. If you connected up a keyboard and a mouse, the PS3 could very easily function as a full-fledged PC!

Of course, YellowDog has still not been able to take full advantage of the eight cores of the Cell Processor, and hence the 256MB RAM seems a bit weak at times. But the guys at FixStars are continually updating the software to take full advantage of this mighty processor.

### 2.1.5 WHY IT SUCKS

Programming – in terms of hardware, the PlayStation 3 is almost unbeatable. Three years after its launch, it is still considered to be more powerful than many new computers with processors from Intel and AMD. However, the Cell Processor did lead to a significant liability for the console – the ire of game developers.

In designing the console's hardware, Sony paid little heed to the software and has since rued the decision. The eight cores and the complicated kernels made it very difficult to come out with a software development kit (SDK) that game programmers could warm to.

In 2007, Gabe Newell of Valve – which develops games such as *Half Life* and *Counter Strike*, said: "The PS3 is a total disaster on so many levels, I think it's really clear that Sony lost track of what customers and developers wanted. I'd say, even at this late date, they should just cancel it and do a do over. Just say, 'This was a horrible disaster and we're sorry and we're going to stop selling this and stop trying to convince people to develop for it'".

Doug Lombardi, the VP of Marketing for Valve, has since stated that it is interested in developing for the console and are looking to hire talented PS3 programmers for future projects. However he stated, "Until we have the ability to get a PS3 team together, until we find the people who want to come to Valve or

who are at Valve who want to work on that, I don't really see us moving to that platform".

He also expressed disappointment with how the PS3 version of The Orange Box turned out calling it a "stepchild" version of the game.

### 2.2 Microsoft Xbox 360

Microsoft's foray into the video game industry with the original Xbox wasn't as big a hit as the company would have wanted. Still, the potential was clearly seen, and as is the competitive way of MS, the second generation of its console was intended to beat the heavyweight PlayStation 3 and reign supreme in the console industry.

This wasn't going to be easy: Microsoft's core business has always been software while this was an out-and-out hardware venture. What's more, Sony enjoyed a special spot in the hearts of all game developers, given that the PlayStation 2 had quickly become the most popular console of all time.

Bill Gates and his merry men decided to place their trust in two visionaries for this next-gen device: Microsoft Vice President J Allard and the newly-hired Peter Moore, former President of Sega America. This partnership has been widely credited as the reason the Xbox 360 has emerged as the superior console among the two.



Microsoft's rush ended up with IBM making 90nm chips for the Xenon processor and ATI making 80nm chips for the Xenos GPU, taking up more physical space, more power and emitting more heat

#### 2.2.1 HARDWARE

##### Xenon Processor

Just because Sony went to IBM to develop a next-generation processor did not mean that Microsoft was going to run in the opposite direction. IBM was the premier processor-maker on the planet and MS was looking for something state-of-the-art for the Xbox 360.

IBM was already working on the PowerPC architecture at that time, derived from the same designs that were going into making the Cell Processor. When Microsoft



approached the company, it did not know just what the STI was planning; but even if it did, very little would probably have changed.

Allerd and Moore were not looking to build a device that would take over the lives of the household – at least not just yet. The focus was on delivering good performance at an affordable price with a processor that could last a long time, but did not necessarily have to be a ‘mini-supercomputer’ like that of the PS3.

Using the PowerPC architecture, IBM developed the Xenon processor for the Xbox 360, which boasted of three cores with 32 KB of cache memory on each. Similar to the Cell Processor, the Xenon’s core clock speed was 3.2 GHz.

Microsoft was in a hurry to launch the device, though, and so ended up coming out with 90nm chips that took up more physical space, more power and emitted more heat.

Since its launch, the Xenon processor has undergone a change, and is now called the ‘Falcon’. In the Falcon, MS managed to bring the chips down to the 65 nm fabrication process, thus saving precious manufacturing costs and being able to scale down the size of the Xbox 360 if need be.

### **Xenos GPU**

While Sony decided that Nvidia was the way to go for all things graphical, Microsoft was of the opinion that ATI would give more bang-for-buck.

The graphics processing unit (GPU) that ATI came out with was quickly dubbed the Xenos and promised a revolution for the Xbox 360. It was based on ATI’s upcoming R600 architecture, which was to be used for the company’s premium graphics card line-up.

To make the GPU less power-hungry, the company decided to merge the two major aspects of shader hardware: vertex and pixel. In a normal GPU, the shaders are on two physically different segments of the circuit; but in the Xenon, ATI put them in the same place.

As AnandTech puts it: “The unified shader architecture that ATI chose to use in their Xbox 360 GPU allows them to pack more functionality onto fewer transistors as less hardware needs to be duplicated for use in different parts of the chip and will run both vertex and shader programs on the same hardware.”

Still, this change in approach ended up taking a lot of ATI’s time and the resultant GPU was based on an 80nm fabrication process, thus throwing out more heat. The two 60 mm fans that accompanied the heatsink were never going to be enough – a fatal error that later led to the infamous ‘Red Ring Of Death’.

However, this aspect has since been corrected and the new version of the Xbox 360 based on the Falcon chipsets use a 65 nm fabrication process for the same.

The Xenos GPU has a core clock speed of 500 MHz and 10 MB of embedded RAM (eRAM).



### DVD Drive

The Xbox 360 uses a standard DVD-ROM for all its operations and all the games used on the device come on standard DVDs.

In the initial war of the next-gen disk formats, Microsoft had sided with the Toshiba-led HD-DVD camp and so released an HD-DVD add-on for the Xbox 360. However, the company later retracted this device and there have been rumours of Microsoft favouring Blu-ray for the next big console pack, sometime in 2010.



Before being beaten by Blu-ray, the Xbox 360 came with an external HD-DVD add-on drive

### Hard Disk

The 'Core' version of Xbox 360, now called the 'Arcade', comes without a hard disk at all! This iteration is largely aimed at those who just want to play games and not use the 360 as a multimedia device.

The 'Arcade' model formerly came with a 256 MB Memory Unit, but now has 512 MB of built-in flash memory.

Higher-end versions of the Xbox 360 – dubbed the 'Pro' and the 'Elite' – come with 20, 60 or 120 GB hard disks. The hard disks for the 360 are in a proprietary Microsoft format, and thus cannot be swapped for higher capacity storage.



The hard disks for the 360 are in a proprietary Microsoft format, and thus cannot be swapped for higher storage like the PS3

### Connectivity

While the Arcade version does not allow for internet connectivity of any kind, the Pro and Elite Xbox 360s do come with Ethernet ports so that you can play online with your friends.

A composite cable comes bundled with any of the versions, while a Pro will get you a component cable too, and an Elite will throw in HDMI. Still, all three versions do support composite, component and HDMI connectivity.



The back of the Xbox 360 is filled with several ports for different connectivity options

The Pro and Elite packages also have a headset included, along with a basic controller.

The console also sports three USB ports (two in the front, one at the back), and can connect to the wireless controllers via a proprietary protocol.

It also has two front-mounted memory card slots for the system's proprietary Memory Unit. These can be used to transfer personal game data from one Xbox 360 to another.

### 2.2.2 ACCESSORIES

#### Xbox 360 Controller

The most criticised aspect of the original Xbox led to the most widely-appreciated aspect of the Xbox 360: the controller.

The original Xbox had one of the ugliest and most cumbersome controllers in the history of video games. Its size was gargantuan and it looked as appealing as a plate of steaming broccoli. In fact, in the Guinness World Records Gamer's Edition (2008), the original Xbox controller was actually awarded a world record for 'biggest controller'.

Microsoft seems to have taken these stories to heart as the Xbox 360's controller has been nothing short of magnificent. Pristine white and with a matte finish, the controller comes in both a wired and wireless version, where the former connects to the 360 via USB and the latter is operated by batteries.



The Xbox 360 Controller is by far the best gamepad to have ever come out in any video game console

It is almost as if the controller went on a diet and has come out sleeker and more ergonomic than ever before. When the Sega Genesis first came out, its controller seemed to have been custom-made for your hands; the 360 controller gives you that same feeling.

The design of the 360 controller underwent a radical change, with Microsoft dumping the earlier six-button interface for a four-button one, akin to the DualShock. However, the buttons on the 360 controller are made of hard plastic in a bubble-like shape, thus giving a nice ‘clickety’ feel to the user.

MS did stick with one aspect of the original controller – using an analogue stick in the top-left corner for movement, and moving the navigation pad to where the left analogue stick lies on the DualShock. Honestly, this makes a world of a difference, as your thumbs are aligned while playing any game.

The controller still uses eight buttons, with the R1 and L1 buttons being relegated to small stubs, while the R2 and L2 buttons are long triggers. Whether it’s a coincidence that the SixAxis also went with a trigger-format or not is up for debate, but what is of importance is that the 360’s triggers feel a lot more comfortable to hold and pull.

In the wireless controller, the added weight of the dual AA batteries tends to throw the weight ratio off just a little bit, but it is never so inconvenient that you would strain any muscle. A set of high-alkaline batteries, such as Duracell or Energizer, will easily last you for about 20-25 hours of gameplay.

The Xbox 360 controller also has a new ‘Guide’ button in the centre of its face that provides a new functionality. This button is divided into four quadrants that light up to provide gamers with different types of information during game play. For instance, during a split-screen multiplayer match, a particular quadrant will light up to indicate to a player which part of the screen he or she is playing on at that time. The Guide button can also light up to let a player know he has received a message from another gamer. In this case, when the user pushes the button, he or she visits the Xbox dashboard, which provides access to features such as messaging friends, downloading content, voice chat and customising soundtracks, all while staying in the game. The Guide button also allows users to turn off the controller or the console by holding the Guide button longer.

### Play & Charge Kit

Since the wireless 360 controller does not come with a built-in battery that can be recharged, Microsoft has introduced battery packs and rechargeable kits for it.

The battery pack for the Xbox 360 controller is made of two NiMH batteries that can provide up to 25 hours of continuous gaming.

This battery pack can be recharged using the ‘Play & Charge Kit’, wherein the wireless control has to be plugged into the Xbox 360’s USB port. While the control can be used during this process, it is advisable not to as it can cause damage to the device.

Apparently, there have been notable issues regarding this item. Reportedly, after more than six hours, the charge light will sometimes stay red, meaning that the controller is not fully charged. Some have also noted that the wireless controller may become dependant of the charger, causing the need for it to be plugged in at all times, therefore negating its purpose.



The Play and Charge Kit is an easy way to charge the wireless controller while playing

### Messenger Kit

Just like the PS3 felt the need for a keyboard-like add-on for the SixAxis, Microsoft figured that the 360 controller needed something to let users chat with their friends. In comes the Messenger Kit, complete with a ChatPad and a wired headset.

The ChatPad connects to the 360 controller, docking between its two arms. This convenient location makes it easy to use one's thumbs to type out messages in games and on the Xbox Live Windows Live Messenger.



Docking between the controller's two arms, the Xbox 360 chatpad makes it easy to use one's thumbs to type out messages in games and on the Xbox Live Windows Live Messenger

The ChatPad itself also allows one to connect another accessory, the wired headset, so that a user can go for both audio-video connectivity as well as textual input – a must-have when you are playing a large multiplayer game and need to send a quick coded message to your team.

### Xbox Live Vision

Xbox Live Vision is a webcam designed for the 360, which can be used for video chat, personalised gamer pictures, in-game video chat and still pictures. The camera can record 640x480 video at 30 frames per second and is capable of taking still images at 1.3 megapixels. It allows for video chat and picture messages using an Xbox Live Gold Subscription with video effects along with in-game compatibility.



Xbox Live Vision is a Webcam designed for the 360, which can be used for video chat, personalised gamer pictures, in-game video chat and still pictures

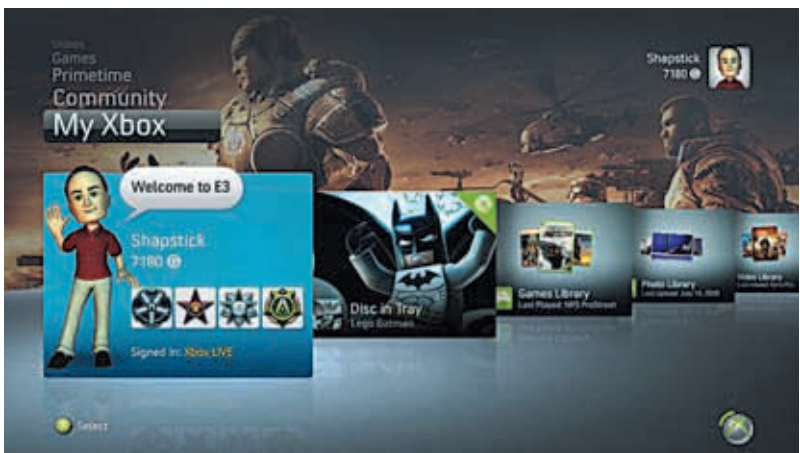
It also features three camera effects, in which the currently captured video image is overlaid on the dashboard background. The three effects are 'watery', 'edgy', and 'dotty'.

The camera uses a standard USB 2.0 connection and is also Windows and Mac OS X (v10.4.9 and newer) compatible.

### 2.2.3 INTERFACE

#### Dashboard

While the Xbox 360 might not hold a candle to the PlayStation 3 in terms of hardware, Microsoft's years of experience with software has enabled it to come out with a GUI that makes the PS3 look outdated.



The most significant aspect of the NXE is that it allows players to install video games on their hard drives, or download them off the Internet

The 'dashboard' is the equivalent of a Windows desktop, in that it is your one-stop main launching point for any task you want to perform.

The interface of the dashboard is periodically updated over the internet, and the current version is titled the New Xbox Experience (NXE).

The most significant aspect of the NXE is the introduction of the ability to create avatars. Players are able to customise avatars by changing body shape, facial features, hair and clothes, as well as new clothing being released from time to time. The avatar becomes your gateway profile to any game or other Xbox Live environment.

The Xbox Guide has also been redesigned. Players are not only able to view their friends and messages, but are able to access their game library. If a user has installed any game onto their Xbox 360 Hard drive, they are able to immediately start the game from the guide, whether they are in a game or in the dashboard.

The most significant aspect of the NXE is that it allows players to install video games on their hard drives, or download them off the internet. When playing a game from a disk, there can often be problems arising from the disk skipping, the drive being dusty, unwanted whirring noises, etc. All of this is eliminated by playing a game directly off the hard drive. As IGN notes, for most games this feature also reduces the amount of time spent reading the disk, therefore helping to extend the life-span of the optical drive mechanism.

NXE also introduced a feature called Parties, which allows players to take the celebration online, connecting up to eight friends in one venue to catch up on chat, share photos real-time, etc. In the future, Parties will also enable friends to watch movies or TV shows together.

However, users will be disappointed to note that the Xbox 360 does not support the DivX video format and instead relies purely on WMV files.

### **Xbox Live**

Xbox Live, the online platform for the Xbox 360, is divided into two types of accounts: gold and silver. The silver account is free, allowing users to use minimal aspects of Xbox Live. The paid gold account opens up the entire suite of Xbox Live goodies!

The two main features of Xbox Live are the Marketplace and the Arcade.

The Xbox Live Marketplace is an e-store that allows users to download and buy content such as movie and game trailers, Video Store, game demos, Xbox Live Arcade games, Xbox Live Community Games, Xbox Originals, downloadable content such as map packs, gamer pictures, and Xbox 360 Dashboard themes.

The choice of currency in the Xbox Live world is Microsoft Points, which can be earned by finishing games and certain missions within games. Points can also be digitally purchased with a credit card or bought through physical 'points cards' and used digitally.

The Xbox Live Arcade is a game e-store that has some of the coolest arcade titles



The Xbox Live Marketplace is an e-store that allows users to download and buy content ranging from games and demos to movie trailers and dashboard themes

from days of yore. Games which usually don't deserve a full-fledged DVD usually fall into this category, with 2D platform titles like Sonic being the most popular of the lot.

### 2.2.4 WHY IT RULES

Programming – in comparison to the PlayStation 3's horror stories of developers struggling with making games for the console, the Xbox 360 has seen nothing but praise.

And since the underlying architecture of the software is similar to that of the Windows line of operating systems, it also becomes easy for a developer to be able to cater to different platforms.

Making a developer feel welcome on a platform is a key area for a manufacturer, as the lack of it can have them switching to the other party purely out of convenience.

In fact, some experts argue that the Xbox 360's ability to garner so many exclusive titles for its platform over the PS3 has been largely due to the fact that it is much easier to code for.

### 2.2.5 WHY IT SUCKS

Red Ring Of Death – Microsoft's Windows was always dogged with the notorious Blue Screen Of Death and its Xbox 360 is not without a common problem of its own, dubbed the 'Red Ring Of Death' (RROD).

This 'red ring' is actually three flashing red lights on the face of the console, around the power button where four green lights are usually indicated for normal



operations. The RROD is an error code by Microsoft, meant to signal that there has been a hardware failure.

While this error code is usually caused by failure of one or more hardware components, it also can indicate that the console is not receiving enough power from the power supply, which can either be due to a faulty power supply or if the power supply cable is not fully inserted into the console.

Here is an excerpt from Wikipedia with validated referrals: "A source that has been identified as a team leader and key architect in the creation of the Xbox and Xbox 360 and a founding member of the Xbox team provided insight as to the high rate of failures. The interviews suggest that Xbox 360 units that fail early in their life do so because of problems in the system design, parts supply, material reliability, and manufacturing issues as well as a system not tolerant to faults. These issues were alleged to be the end results of the decisions of management in Microsoft's Xbox team and inadequate testing resources prior to the console's release. A second source cited that, at one time, there was just a 32 per cent yield of one of the test production runs. 68 of every 100 test units were found to be defective."

In February 2008, during the Game Developers Conference 2008, Microsoft announced that the "Failure rate has officially dropped", but without mentioning any specifics. The same month, electronics warranty provider SquareTrade published an examination of 1,040 Xbox 360s and said that they suffered from a failure rate of 16.4 per cent (one in six). Of the 171 failures, 60 per cent were due to a general hardware failure. And of the remaining 40 per cent which were not covered by the extended warranty, 18 per cent were disk read errors, 13 per cent were video card failures, 13 per cent were hard drive freezes, 10 per cent were power problems and 7 per cent were disk tray malfunctions. SquareTrade also stated that its estimates are likely much lower than reality due to the time span of the sample (six to ten months), the eventual failure of many consoles that did not fail within this time span and the fact that many owners did not deal with SquareTrade and had their consoles repaired directly through Microsoft via the much publicised extended RROD warranty.



Just like the Blue Screen of Death plagued Windows users for years, the Red Ring of Death is the Xbox 360 user's nightmare

## 2.3 Nintendo Wii

Nintendo had been making video game consoles before Microsoft and Sony even made it big in their respective fields. From the original Nintendo Entertainment System to the GameCube, the company has been the most consistent console





Wii sounds like 'we', which emphasises that the console is for everyone.

manufacturer over the past 25 years.

But somehow, it never quite caught up with the PlayStation 2 and the original Xbox when it came to the showdown during the last generation of consoles. People wrote off the company, saying it was past its prime. If anything, the Wii delivers an important lesson: never underestimate Shigeru Miyamoto.

The grand-daddy of video games and the creator of Mario set about envisioning a new console that would transcend the current gaming audience and truly appeal to a whole family at large. Drawing from the Japanese culture, he wanted to make video games a family experience. And boy, did he ever succeed.

Nintendo soon came out with the motion-sensing Wii. Why the name? The company explains: "Wii sounds like 'we', which emphasizes that the console is for everyone. Wii can easily be remembered by people around the world, no matter what language they speak. No confusion. No need to abbreviate. Just Wii."

Launched on September 14, 2006, the Wii has sold almost 50 million units worldwide so far. That's not a typo – fifty million units!

### 2.3.1 HARDWARE

#### Broadway Processor

With Sony and Microsoft both going to IBM for the microprocessor in their next-gen consoles, why would Nintendo be left behind?

The company approached IBM for a new processor as well, although its request was completely different from that of Sony and MS. Nintendo was looking for something that provided ample punch at a small size, was easy to manufacture and was not power-hungry.

This was a different challenge for IBM from the 'cutting-edge-technology' demands that it regularly gets. Soon, the Broadway processor was born.

Nintendo has notoriously shied away from discussing the details of its hardware, probably because of how poorly it compares to the other two next-gen consoles. Still, a few details have managed to leak over time.

Using a 90 nm fabrication process, the Broadway still manages to use 20 per

cent lesser power than the Gekko processor of the Nintendo GameCube, which was also designed by IBM.

With the core clock running at just 729 MHz, the Wii is barely as fast as the original Xbox, whose processor clocked in at 733 MHz. Based on the IBM's silicon-on-insulator Power Architecture, it provides impressive processing power without consuming much energy.

### Hollywood GPU

If there was little information available about the Broadway processor, there is even less about the ATI-produced graphics processing unit (GPU), dubbed the Hollywood.

IGN.com was among the few who found out any details about this ultra-secretive GPU, when a source from a game developer studio told them: "The 'Hollywood' is a large-scale 90nm integrated chip that includes the GPU, DSP, I/O bridge and 3MBs of texture memory."

Further information has leaked that it clocks in at 243 MHz. By comparison, GameCube's GPU ran at 162 MHz, while the GPU on the original Xbox was clocked at 233 MHz.

The internal memory of the device includes 3 MB of embedded graphics memory and 24 MB of high speed main memory. Externally, the device uses just 64 MB of DDR3 memory.

By any modern standards, this is not a device that can churn out awe-inspiring visuals at super-high resolutions.

But the Wii was never meant for that anyway, after all. The Wii is all about fun, not about setting new graphics benchmarks.



The 'Hollywood' processor and the 'Broadway' GPU are nothing to write home about. But the Wii is not about the graphics and computing muscle anyway; it's all about fun

### DVD-ROM

The Wii utilises a simple, slot-loading DVD-ROM as its optical drive. The illuminated drive accepts both Wii DVDs as well as GameCube game disks.

Given the low graphic requirements of the Wii, most of the games designed

for the system fit on simple 4.5 GB DVDs, thus leading to a lot of piracy for the system's titles.

Surprisingly, though, the Wii cannot play back DVD-Video or DVD-Audio disks. Nintendo was apparently not looking at making this a convergence box and instead focussed solely on the ability to bring out a video game console alone.

### Hard Drive

The Wii comes equipped with 512 MB of internal flash memory, which can be expanded via an SD card of up to 32 GB in size. This SD card has various uses such as uploading photos, backing up saved games, create customised in-game music from stored MP3 files, etc.

The lack of a physical hard drive in the Wii is no surprise, given the low memory requirements its data and its games have.

### Connectivity

The low graphical capabilities of the console do not enable it to produce high-definition content. Hence, the Wii comes with a simple MultiAV port for component, composite and S-Video connectivity.

The console's controllers connect to it wirelessly via Bluetooth, and come with their own built-in speakers.

For internet connectivity, while there is no Ethernet port, the two USB ports are compatible with USB to Ethernet LAN adaptors. Alternately, the Wii's onboard Wi-Fi chip could simply sniff out an active connection and log online.

And of course, to get the Sensor Bar going to detect the moments of the Wii Remote, there's a power port for the same.



As can be seen, the Wii is quite devoid of connectivity ports, with HDMI conspicuously missing

### 2.3.2 ACCESSORIES

#### Wii Sensor Bar

The Wii Remote, or WiiMote, and the Sensor Bar are the centre of the entire motion-sensing technology of the console. The Sensor Bar also allows for standardisation of gameplay, as the size of your TV screen does not factor into the ability to detect your movements and how they are depicted on screen.

The position and motion tracking of the WiiMote allows the player to mimic actual game actions, such as swinging a sword or aiming a gun, instead of simply pressing buttons. But how exactly does it work? Well, it's all about the marriage of

the WiiMote and the Sensor Bar.

The Sensor Bar is about eight inches long and features 10 infrared LEDs, five at each end of the bar. The LEDs farthest away from the centre are pointed slightly away from the centre, the LEDs closest to the centre are pointed slightly inwards, while the rest are pointed straight forward.

The Sensor Bar's cable is almost 12 feet in length – enough to be placed above or below the television, preferably at the centre. If placed above, the sensor should be in line with the front of the television, and if placed below, it should be in line with the front of the surface the television is placed on.

Nintendo notes that it is not necessary to point directly at the Sensor Bar, but pointing significantly away from the bar will disrupt position-sensing ability due to the limited viewing angle of the Wii remote.

The WiiMote can be used accurately in conjunction with the Sensor Bar up to a distance of 16 feet away. The WiiMote's image sensor is used to locate the bar's points of light in the remote's field of view.

The light emitted from each end of the Sensor Bar is focused onto the image sensor which sees the light as two bright dots separated by a distance on the image sensor. The second distance between the two clusters of light emitters in the Sensor Bar is a fixed distance. From these two distances, the Broadway CPU calculates the distance between the WiiMote and the Sensor Bar using triangulation.

In addition, rotation of the WiiMote with respect to the ground can also be calculated from the relative angle of the two dots of light on the image sensor.

The Sensor Bar is required when the WiiMote is controlling up-down, left-right motion of a cursor or reticle (a pointing cursor such as a cross-hair) on the TV screen to point to menu options or objects such as enemies in first-person shooters.

Because the system can also calculate the distance between the WiiMote and the Sensor Bar, the remote can also control slow forward-backward motion of an object in a 3-dimensional game. Rapid forward-backward motion, such as punching in a boxing game, is controlled by the acceleration sensors. Using these acceleration sensors (acting as tilt sensors), the WiiMote can also control rotation of a cursor or other objects.



The Sensor Bar is about eight inches long and features 10 infrared LEDs, five at each end of the bar. The LEDs farthest away from the centre are pointed slightly away from the centre, the LEDs closest to the center are pointed slightly inwards, while the rest are pointed straight forward

### Wii Remote (WiiMote)

The Wii remote's motion-sensing capabilities are dependant on accelerators and gyroscopes fitted in the device. But the major change in the WiiMote is not in the technology within, but in its design itself.

Ever since gamepads first made an appearance replacing the previously popular joysticks, the underlying design has been the same: you hold a controller in two hands, with your thumbs operating the buttons and navigational sticks. Even the modern SixAxis, DualShock 3 and Xbox 360 controllers employ the same basic design.

Nintendo has always been about innovation and Shigeru Miyamoto wanted to change the way we think about controllers. The final WiiMote looks more like a remote controller for a television than that for a next-gen video game console.

Shaped thin and long like a bar, the 5.83-inch controller has a four-way navigational pad at the top, along two standard buttons, simply numbered '1' and '2'. The usual operational buttons of 'Start' and 'Select' have been replaced with a '+' and '-', while a new 'Home' button has been added for the default Wii Menu. And yes, a power button lets you remotely switch the console on and off.

At the bottom of the console, where your index finger would rest, lies another button shaped like a trigger.

As stated earlier, the WiiMote also has a speaker built into it. The Wii switches between its main audio output and that of the remote speaker quite smartly to create some cool effects.

For example, at a demonstration, a girl who used the WiiMote to imitate the action of pulling back a bow and shooting an arrow at a target heard the sound of the bow and arrow first erupting from the WiiMote speaker. It slowly died down while getting louder from the TV speakers, as the arrow "travelled" the distance



The WiiMote looks more like a remote controller for a television set than that for a next-gen video game console

from the girl to the TV.

Also, in games such as *No More Heroes*, the WiiMote speaker is used to answer cell phone calls, where once you hold the controller up to your ear, a message starts playing from the tiny speaker.

The Wii Remote can also be turned horizontally and used like an NES controller, or in some cases like (*Excite Truck*) a steering wheel. It is also possible to play a single player game with a WiiMote in each hand, as in the 'Shooting Range' game contained in *Wii Play*.

It uses two standard AA batteries as a power source, which can power a WiiMote for 60 hours, using only the accelerometer functionality, and 25 hours using both accelerometer and pointer functionality.

### Nunchuck

So with the WiiMote requiring only one hand to play, what exactly are you supposed to do with the other?

The Wii package also comes with an attachment for the WiiMote, called the 'Nunchuck', which resembles the kung-fu weapon nunchaku. Connected to the remote via a small cord, the device has a little joystick along with two buttons, and acts as the movement-controlling analogue stick in a lot of games, especially first person shooters.

Like the Wii Remote, the Nunchuk also provides a three-axis accelerometer for motion-sensing and tilting, but without a speaker, a rumble function, or a pointer function.

Powered by two AAA batteries, the device's battery will last as long as the WiiMote's.

### Wii MotionPlus

While the technology underlying the Sensor Bar and the WiiMote is great, the actual accuracy of translation of movement to screen left a little to be desired. Complex movements, especially, were a bit of a problem for the system, and Nintendo



Connected to the WiiMote via a small cord, the Nunchuck has a little joystick along with two buttons, and acts as the movement-controlling analogue stick in a lot of games, especially first person shooters

believed the problem lied with the WiiMote.

So the researchers at the company set about developing a small add-on for the remote, rather like an external casing, which would increase its sensitivity and accuracy significantly. And soon, the Wii MotionPlus was upon us.

The device incorporates a dual-axis 'tuning fork' angular rate sensor, which can determine rotational motion. The information captured by the angular rate sensor can then be used to distinguish

true linear motion from the accelerometer readings. This allows for the capture of more complex movements than possible with the Wii Remote alone.

The Wii MotionPlus features a pass-through External Extension Connector, allowing other expansions such as the Nunchuk or Classic Controller to be used simultaneously with the device.

When attached to the Wii Remote, the unit extends the length of the controller body by approximately an inch and a half.

The device is only used by games that have been specifically developed to use its functionality, such as *Wii Sports Resort* and *Tiger Woods PGA Tour 2009*. It can be left attached to the Wii Remote when playing games that do not support it without causing any problems, but it will not improve gameplay.



The Wii Motion Plus is a small add-on for the remote, kind of like an external casing, that increases its sensitivity and accuracy exponentially

### Classic Controller

Of course, just because the Nintendo Wii is more about 'fun' games does not mean you can't get your arcade dose through it. And for the authentic arcade experience, you need a proper gamepad, right?

Nintendo's Classic Controller lets you get back to your button-mashing best with a traditional design that



Nintendo's Classic Controller lets you get back to your button-mashing best with a traditional design that is similar to the layout of the DualShock 3

is similar to the configuration of the DualShock 3.

There are four buttons on the right-hand side of the face while a four-way navigational pad sits on the left. Two analogue sticks rest between the sides, and the top is adorned with four buttons: 'L', 'R', 'ZL' and 'ZR'. It also has a set of '-', 'Home' and '+' buttons like those on the Wii Remote, with the '-' and '+' buttons labelled 'Select' and 'Start', respectively.

### Zapper

The Wii Zapper is a gun shell peripheral for the WiiMote, deriving its name from the NES Zapper light gun for the Nintendo Entertainment System. The attachment is primarily aimed at first-person shooter titles, where the user's arm can get pretty tired holding up the WiiMote all the time.



Primarily meant for first person shooters, the Wii Zapper Gun is shaped a bit like a machine gun, in which the Wii Remote is fitted in the gun barrel and the Nunchuk is cradled in the rear handle

The accessory is shaped a bit like a machine gun, in which the Wii Remote is fitted in the gun barrel and the Nunchuk is cradled in the rear handle. This design came about from the realisation that making the Wii Zapper functionally independent from attachments would "allow for more diverse play styles."

While some concern has been raised by this arrangement, since most people would naturally end up holding the Nunchuk with their dominant hand and be forced to pull the trigger with their non-dominant hand, rest assured that the attachment is wonderfully simple and quite handy.

### 2.3.3 INTERFACE

The Wii Menu – the default interface for the Nintendo Wii has been based on the idea of television channels, and dubbed the 'Wii Menu'.

The 4x3 grid of 'channels' can be navigated by using the WiiMote's pointer capability or the 4-way navigational pad.





The default interface of the console, the Wii Menu, contains a grid of 'channels' to access different functions

There are six pre-loaded channels in the Wii Menu: Disk, Mii, Photo, Wii Shop, Forecast and News.

The Disk channel allows users to play Wii and GameCube titles, displaying the name of the disk that is present in the drive and playing an introductory audiovisual clip. This is the only channel that cannot be moved across the fully customisable Wii Menu without the use of third party tools.

Nintendo was the first of the next-gen consoles to utilise the concept of avatars with 'Mii', where users can design 3D caricatures of people by selecting from a group of facial and bodily features. Users can select from pre-made caricatures or create their own by choosing custom facial shapes, colours and positioning. In certain games, each player's Mii caricature will serve as the character he controls in some forms of gameplay. Up to ten Miis can be stored on WiiMotes Remotes and taken to other Wii consoles.

If a user inserts an SD card into the console, or receives photos (JPEG) or videos (MPEG) via email, they can be viewed using the Photo Channel. The user can create a slideshow by simply inserting an SD card with photos and, optionally,

MP3 or AAC files.

The Wii Shop Channel allows users to download games and other software by redeeming Wii Points, which can be obtained by purchasing Wii Points (Nintendo Points) cards from retail outlets or directly through the Shop Channel using MasterCard or Visa credit cards online.

The Wii Shop contains three main sub-categories: virtual console (which lets you buy old games that are playable via an emulator), WiiWare (small-budget arcade games created by independent developers) and Wii Channels (where you can buy extra channels, such as the Internet Channel).

When the Wii is connected to the internet, the Forecast and News channels, obviously, show status updates about the latest weather and news headlines from across the globe.

### 2.3.4 WHY IT RULES

A hacker's delight – now, while we do not condone piracy, it is still one of the major factors when buying a console in India. But more importantly, a few simple hacks can get you to derive a lot more out of a console than you ever thought possible.

Neither the Xbox 360 nor the PlayStation 3 are particularly welcoming towards piracy. While Microsoft's console can be cracked to play pirated disks, it does void the warranty; and with the probability of an RROD looming large, you don't want to be left with a bricked console in your hands. Meanwhile, the copy protection in the PlayStation 3 has somehow still been impossible to crack for the millions of pirates out there.

On the other hand, the Wii has been the easiest of the lot to be unlocked. Several 'homebrew' communities online have detailed instructions on how to crack the console to not only play pirated games, but also get the Wii to perform tasks such as playing DVD video disks.

### 2.3.5 WHY IT SUCKS

Disdain for graphics – don't get us wrong, we realise that the Nintendo Wii is not meant to be a graphical delight like the Xbox 360 or the PS3. But really, when you have such eye candy available for the other consoles, the pangs of jealousy are quite overpowering.

The Wii's graphics look outdated at best, and ignore the realism aspect of modern gaming. All the major titles are focused on a cartoon-like feel, with exaggerated animation styles taking precedence over realistic graphics.

While this works for a while, over time, you start missing the good old graphics. And in cross-platform titles such as *Need For Speed* and *Call of Duty*, it becomes painfully obvious what you are missing.

## 2.4 Comparison Chart

Name	Sony PlayStation 3	Microsoft Xbox 360	Nintendo Wii
Dimensions	3.9 in + 12.8 in + 10.8 in	3.3 in + 12.2 in + 10.2 in	1.7 in + 6.3 in + 8.5 in
Weight	5 kilograms	3.5 kilograms	1.2 kilograms
Launch	November, 2006	November, 2005	November, 2006
Interface	Xross Media Bar	New Xbox Experience	Wii Menu
CPU	IBM's 3.2GHz Cell Processor (8 Cores)	IBM's 3.2GHz Xenon (3 Cores)	IBM's 729MHz Broadway Processor
GPU	Nvidia's 550 MHz RSX 'Reality Synthesizer'	ATI's 500MHz Xenos	ATI's 243MHz 'Hollywood'
Memory	512MB (256MB for system and 256MB GDDR3 for GPU)	512MB GDDR3 and 10MB embedded RAM for GPU	24MB internal, 64MB external
Optical Drive	2x BD-ROM, 8x DVD, 24x CD	12x DVD-ROM	DVD-ROM for Wii Optical Disc, GameCube Game Disc
Hard disk	20/40/60/80/160 GB hard disk drive, standard 2.5-inch format	512MB flash memory, 20/60/120GB hard disk drive, proprietary format	512MB built-in flash memory
Memory card	Memory Stick, SD, & Type I/II CompactFlash	Xbox 360 Memory Cards	SD card (up to 32GB)
Connectivity	Bluetooth 2.0, 4 USB ports	2.4GHz radio frequency, 3 USB ports	Bluetooth 2.0, 2 USB ports
Network	Gigabit Ethernet, Wi-Fi	Gigabit Ethernet, Optional Wi-Fi Adaptor	Wi-Fi, Optional Ethernet-to-USB adaptor
Online Service	PlayStation Network, Remote Play	Xbox Live, Xbox Live Arcade	Nintendo Wi-Fi Connection, Channels
Video output	RGB, Component, S-Video, Composite, SCART, HDMI	RGB, VGA, Component, S-Video, Composite, SCART, HDMI	RGB, Component, S-Video, Composite, SCART, D-Terminal
Resolutions	HDTV-capable (480i, 480p, 576i, 576p, 720p, 1080i, 1080p)	HDTV-capable (480i, 480p, 576i, 576p, 720p, 1080i, 1080p)	EDTV-capable (480i, 480p, 576i)
Audio output	Dolby Digital, DTS	Dolby Digital, WMA Pro, DTS	Dolby Pro Logic II
Controller	DualShock 3	Xbox 360 Controller	WiiMote and Nunchuck

## 2.5 Popular Titles

If you do intend on buying a console, it's always good to know what games you can look forward to...

### 2.5.1 XBOX 360

#### Halo 3

Every console has a game that defines it, and for the longest time now, Halo has been the flagship series of the Xbox franchise. The first two instalments of the game did extremely well on the original Xbox, and Microsoft was looking to keep up the trend with *Halo 3* on the Xbox 360.

*Halo 3* rarely takes a false step. This first person shooter puts you back in the shoes of Master Chief, a cybernetically-enhanced super-soldier in high-tech armour.

Playing as Chief, your goal is to beat the collection of alien races invading Earth, called the Covenant. Over the years, Halo has become an epic saga, spinning a long story with many off-shoots in comics, books and even an upcoming animated series. It's a bit like Star Wars, actually! In *Halo 3*, the ideas behind the story are good, but the story-telling itself is average at best. A game that relies heavily on its lore should have done a better job.

The voice-acting and cut-scenes, however, were done really well. Bad voice-acting can kill the suspension of disbelief that a video game is seeking to create and it seems that Halo's creators made a conscious effort not to go down that road.

Thankfully, the graphics and gameplay completely redeem what little flaws the storyline has. Mind you, this was among the first games to hit the Xbox 360, so there have been better-looking games that have come out since then. But Halo 3 still remains one of the most gorgeous offerings on



Master Chief is back in Halo 3, the best adventure of the popular franchise

the Xbox 360.

Bungie Studios, the developers of Halo, had been rumoured to have been working on the game since a pre-build of the Xbox 360; the effort shows with breath-taking vistas and crisp animations throughout the campaign.

The gameplay, too, is quite marvellous. Bungie has thrown in a vast range of weapons for you to get your hands on, along with enough enemies as fodder at a firing range. The artificial intelligence is top-notch, with your opponents using cover quite smartly, and even flank tactics in higher skill levels.

*Halo 3* also steps up the difficulty in the subtlest of ways: while you have a lot of weapons to choose from, the ammunition is scarce. You can't afford to be trigger-happy in this game, and that adds a nice element of realism to the combat.

One of the best aspects throughout the Halo series has been the vehicular combat it offers, and *Halo 3* is no exception, letting you command small jeeps with mounted turrets, motorbikes or choppers, single-seater flying pods, and even huge tanks. Vehicular combat was never this good!

Multiplayer gameplay has been one of the highlights of the Halo series and *Halo 3* does not disappoint. The developers have thrown in some creative maps to go with the new vehicles and airships you can manoeuvre, making *Halo 3* one of the most popular online-play titles for the Xbox 360.

All in all, the game hardly puts a step wrong and is a must-have if you are plonking down your cash for Microsoft's console.

### Gears of War

Neither Microsoft nor developer Epic Games ever thought that their Xbox 360-exclusive title, *Gears of War*, would ever be so big. This was the first game to use the Unreal 3 engine, made by the creators of the engine itself, and boy, did it ever shake up the market! In fact, The game and its sequel have become so big that Microsoft has been reportedly considering making it the flagship title instead of Halo.

*Gears of War* (GoW) is all about co-operative play and is ideal for a two-player campaign. The game revolves around Marcus Fenix, a former soldier who is



One of the most fun arcade shooters of all time, *Gears of War* is also among the best co-op games out there

serving time in jail for unknown reasons. He is busted out by his good friend, Dominic Santiago, as an underground alien race has started to invade a fictional Earth-like planet called Sera. As always, the fate of the human race rests on the mighty broad shoulders of Fenix and Santiago.

The game was the first to popularise the ‘over-the-shoulder’ camera angle, which is a bit of a mash-up between first-person and third-person shooters. It also introduced an innovative cover-based gameplay, which has since been used extensively in a lot of titles across the board.

The *Unreal 3* engine shines throughout *GoW* as you are hit by one awe-inspiring visual after another, making for one of the most gorgeous games you will ever see. The character art, the background, the lighting – *GoW* sets the benchmark very, very high and all games following it on the *Unreal 3* engine have suffered.

The plot and storyline, of course, remain simplistic. This game is not about weaving an interesting story and voice-actors delivering award-winning performances; *Gears of War* has no pretensions about being the video game world’s equivalent of a Schwarzenegger movie, and in fact, is a lot more fun!

The co-operative gameplay is the highlight of the title as the game is best played with a friend. This can be done by logging online or through a split-screen mode, as one player controls Fenix while the other takes charge of Santiago.

*Gears of War* also flexes its muscle in the gore department by being unafraid to come up with a lot of gruesome and violent ways of depicting death. Even before its launch, the game became famous for its machine guns with chainsaw attachments, enabling you to cut through the enemy aliens at close quarters as the blood splashed on the screen!

The game’s sequel, *Gears of War 2*, also brought the same amount of intense action along with the all-new ability to control vehicles and turrets. A few new guns were introduced, as was the ability to pick up downed enemies to use as shields. And the best part? Chainsaw duels!

The two games are immensely entertaining and would appeal to almost anyone who wanted a mindless shoot-’em-up with brilliant gameplay and awesome graphics. Don’t miss out on this one...

### Lost Odyssey

While the world of video games is mostly seen as an entertainment industry, it is the Japanese who have always insisted on taking it as a medium of art. Story-telling is an integral part of most games developed in Japan, and especially role-playing





Who says Japanese RPGs are dead? Lost Odyssey is a wild and beautiful journey that transcends its 'video game' status

games (RPG).

Hironobu Sakaguchi is one of the most revered names in the gaming world, with his creation of the epic Final Fantasy series. The honoured creator decided that the Xbox 360 could use a touch of his magic and created a gorgeous RPG titled Lost Odyssey.

In the game, you play as the protagonist Kiam – an immortal being who is quite probably a thousand years old. The game starts off with a breath-taking scene that sends a clear message to the player: this game is going to focus on art and not apologise for it!

Kiam has, quite expectedly, lost his memory and your journey to find who or what he is lasts four DVDs and over 40 hours of gameplay, all the while presenting some eye-popping cinematics in developer Mistwalker's picturesque world. Along the way, you will be making allies with mortals and immortals like you, from the alluring Queen Ming to the drunken, staggering, womaniser Jansen.

As you continue your journey, you unlock your memories, told in flashbacks as short text stories. Yes, text! This may send most people crawling for the nearest exit, but believe me, the writing will have you hooked.

Penned by award-winning Japanese novelist Kiyoshi Shigematsu, these stories are written for a mature mind, talking of the pain of losing people, the happiness of finding love, etc. Beautifully written and almost lyrical, the text stories provide a wonderful contrast to the stunning art and design.

The storyline is gripping, with some scenes making you guffaw, and others forcing a lump in your throat. Still, there are points where the story takes you on a high, only to drop you with a painful thud as it takes an absurd twist.

In fact, this is the most annoying part of an otherwise great game. These sudden switches between excellence and silliness are quite a dampener. However, you tend to overlook these once you get used to it.

And with the game having standard turn-based gameplay, it's the enemy design that stands out – the most beautiful and diverse you are likely to come across. Sakaguchi's creativity is unleashed here as he is given free reign in creating concepts.

Of course, that isn't to take anything away from the gameplay. As you select



your actions from the menu, strategy will be your best friend: the attacks need to be meticulously planned based on the enemy's elemental status, and your position on the battlefield.

It's not too complicated, but it is a bit of a challenge once the numbers against you start building up.

In the end, *Lost Odyssey* may not be the best game out there, but it's still a must-have. If not to experience the first breed of next-generation Japanese RPGs, the game deserves to be picked only to immerse yourself in one hell of a good story.

### 2.5.2 PLAYSTATION 3

#### **KillZone 2**

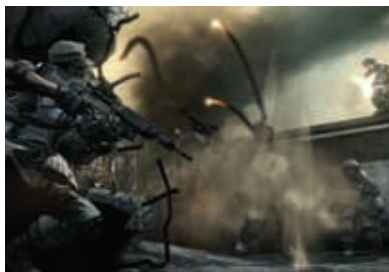
First-person-shooter titles are often regarded as a chance for trigger-happy teens to play *Rambo*. The concept of 'one man taking on the world' is quite popular in this genre and rarely requires true skill and tactics. *KillZone 2*, a follow-up to a title that went bust, seeks to address this shortcoming.

In the game, you play as the protagonist Sgt. Tomas Sevchenko – 'Sev' to his friends – who is a space soldier entrusted with the mission to take down the ruthless Emperor Visari and his gasmask-wearing Hellghast army. You land on Visari's home planet of Helgan, a nightmarish urban jungle of concrete, iron and grey skies.

This is a game that will reward your patience and skill, not your ability to grab the biggest, meanest-looking gun and spray it at 20 opponents. The enemy's artificial intelligence is top-notch, with different foes using different tactics: some try to pick you off from a distance, some throw grenades, while others will try to sneak up and stab you.

In turn, you will have to get those mental cogs turning to beat them into submission. Using the great cover system is paramount to surviving in *KillZone 2*. You will have to pop out and pick your shots, as some enemies won't even go down with a direct headshot!

The biggest disappointment of the game is the lack of varied firepower. You are able to carry only two guns at a time, and since one of them is a pistol, it basically



Requiring skill, intelligence and patience, *KillZone 2* is as good as first person shooters get on a video game console



boils down to a single-gun armoury.

*KillZone 2* also employs the multi-path system popularised by *FE.A.R.*, where every next point of the game is accessible through different routes. This feature would have made sense if you could command your squad to go one way to flank your opposition; or better yet, have a friend do the same through co-operative play. Unfortunately, developer Guerilla Games has offered no such opportunity for gamers.

If the gameplay was polished, the graphics are even more so. *KillZone 2* is quite possibly the most realistic in game in terms of visuals that you will come across. Not only are the textures and character movements brilliant, it is the lighting that wins the most points. Shadows flickering realistically from a distance give you an experience of how real-life soldiers in combat might be relying on such elements during battle.

And even in the non-realistic scenes, the graphics are breath-taking. There is a particular segment where you man a turret gun high above the clouds destroying waves of enemies charging at you, with the backdrop of a beautiful sunset. It's poetry in motion...

*KillZone 2* was never meant to be the flagship title of the PlayStation 3. But it would be surprising if Sony does not decide to market its sequel as such.

### Metal Gear Solid 4

For a long time, experts and pundits have been going on about how video games are going to be 'interactive movies' in the future. Every time we read that statement, it just seems as if they have not played *Metal Gear Solid 4*.

The *Metal Gear Solid* (MGS) series pretty much invented stealth gaming, with the protagonist Solid Snake being the greatest agent ever, back when Sam Fischer of *Splinter Cell* fame was still in his diapers. The MGS series has been the flagship title for Sony's PlayStation, with a fan following that defines the term 'fanatic'.

In this latest and last instalment of the saga of *Solid Snake*, creator Hideo Kojima has decided to go out all guns blazing. To say that the game would be legendary is an understatement. In fact, it's an understatement to call this just a game.



The incredible stealth-action gaming series comes to an explosive end as Solid Snake winds up his story in *Metal Gear Solid 4*

The graphics and cinematic experience of MGS4 has to be seen to be believed. The story literally makes the game and Kojima's team has unabashedly given it ample screen time. Solid Snake has now been rechristened 'Old Snake', due to a genetic malfunction that has him aging rapidly. He has one goal before the flame goes out: stop his evil brother, Liquid Snake, from taking over the world.



Kojima has worked overtime on the graphics department for MGS4, harnessing every single bit that he could from the PlayStation 3 to deliver a visually spectacular treat. It is not about realistic portrayal, but more about stylised exaggeration in a way that only the Japanese can pull off.

*Metal Gear Solid 4* has lengthy cinematic cutscenes, which make up almost half of the game's 12 hours of gameplay. But at no point will you feel bored out of your skull. MGS4 weaves a story, shuts the doors opened in its prequels and brings closure to what is one of the gaming world's greatest franchises.

But the extra focus on the story does not mean that Kojima has ignored the gameplay. The first half of the game is spent in doing what you have done before in all MGS games, only better! The guns feel better, the movements are crisper and even the stealth has got better. A few new enemies liven up the first half of the game, but it's the second half where things are tossed around and Kojima steps in for the killer punch.

We have to refrain ourselves from discussing it as that would become a spoiler, but suffice to say, the second half of MGS4 is the best gaming experience we have had. Ever.

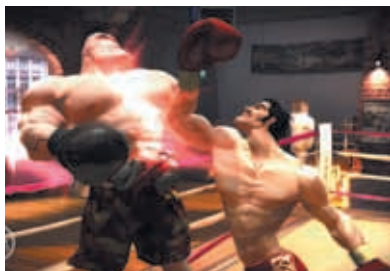
Treat yourself to this amazing title and you will never regret it.

## FaceBreaker

Ever since *Mortal Kombat* was first released, one-on-one combat games haven't been the same. Every game has characters with a list of special moves, that you need to know instinctively to be able to win. Now, FaceBreaker seeks to discard this style, focusing instead on a 'pick up and play' approach. Don't treat this seriously, and you'll have a blast!

Developed by Electronic Arts, this game for next-gen consoles has an old-school charm to it. The entire gameplay revolves around your joystick and just five buttons: High Punch, Low Punch, Block, Throw and Breaker attacks.

The idea is simple: pummel your opponent with as many punches as you can,



Boxing; cartoon animations; easy controls; great characters - Facebook has all the ingredients of an entertaining player vs player game

while dodging or parrying his blows. It's a race to three knockouts, or if you exceed the given time limit, then a sudden death where the first knockout wins.

As you land blow after blow, a small meter starts building up. Hitting the breaker button will execute a special move – SkyBreaker, GroundBreaker, BoneBreaker – depending on how much of the meter is filled.

If the meter is topped up, then you get to deliver a finishing move, called a FaceBreaker. It doesn't matter whether you had been knocked down twice before and your opponent had the upper hand till now in the match – a FaceBreaker always finishes the fight.

In the end, it all comes down to reflexes and timing. If the opponent is throwing a high punch at you, you can either dodge it by holding down your own high-punch, or parry it by holding block and high-punch.

Each player also has a special stun attack, and throwing your opponent into a corner always goes a long way to giving your fists some exercise.

It is this easy learning curve with which FaceBreaker will hook you in. There's none of the depth of *Fight Night*, nor the combo-delivering skill required from a *Tekken* or *Mortal Kombat*. The game is pure button-mashing at its finest. And that's what makes it endearing to a newcomer, as there is never a huge gap between him and a veteran.

While the gameplay is nothing extraordinary – let's face it, there are enough 'pick up and play' game titles out there – the presentation puts FaceBreaker a bit above the others.

The players given are tried-and-tested character sketches, such as the hulking giant Brick who starts sentences with 'Duh', or the rotund, asthmatic Steve who spouts lines from comic books, sci-fi and other



popular culture. Each character has a cool ‘cartoony’ look and funny exaggerated animations. And yes, it’s low-brow humour, so don’t go expecting a satirical master here.

Still, after a few rounds into the ‘Brawl For It All’ tournament mode, you’ll find yourself skipping these animations and going straight to the action.

Segregated into three skill levels, the first two – ‘Fierce’ and ‘Truculent’ – are easily mastered after a few rounds. The third one, however, is aptly titled ‘Impossible’. Good luck with that, if you do attempt it.

All in all, FaceBreaker will provide some joys and laughs, as long as you treat it as a light game, meant mostly for mindless button-mashing to end a long day, or for some multiplayer mayhem.

If you’re the type who calls his friends over when playing console games, then this game is perfect for the “winner stays, loser gives up the control pad to the next guy” parties.

And young ones are bound to enjoy FaceBreaker too, given its simplistic controls. But if you seek a well-crafted, serious fighting game with lots of depth, look elsewhere.

### 2.5.3 Nintendo Wii

#### Wii Sports

Just as Nintendo bundled Super Mario Bros with the original NES and made it a runaway hit, the company has tried the same with the Wii Sports package for the motion-sensing Wii.

The pack of games is more an introduction to the kind of activity you could expect with the WiiMote, with five sports to participate in: golf, tennis, bowling, baseball and boxing. In all the games, the player will assume the role of his or her Mii avatar.

The most popular and fun title of the lot has to be tennis. The WiiMote acts as your racquet in this game, while your Mii character moves around the court automatically. While purists will criticise this aspect, this is really what the Wii



Tennis, baseball and golf were never as fun and never will be again...

is about: focusing more on the fun aspect than the trivial skills. For that purpose, the game is less about reaching the ball and more about timing your swing to play it cross court (swing early), play safe (swing just as the ball reaches you) or down the line (swing late).

As for serving, you have to pretend that the ball is already on your racquet; to toss it up, you just swing your WiiMote upwards, and then smash it overhead to have it go hurtling ahead. Again, the timing of your overhead swing will determine the velocity of the service.

In training mode, you will be given tasks such as keeping up a rally as long as possible, serving in different quadrants, etc. These help refine your skills, not to mention entertain you no end.

Our second favourite game in the Wii Sport pack is golf. Now, in real life, we find it to be utterly tedious and yawn-inducing. But on the Wii, it's an absolute blast!

The virtual golf for the Wii is primarily about getting your swing right. As you must have guessed, the WiiMote, in this case, is your golf club. To increase the fun, we strongly recommend you take the stance of a real golfer and swing as if you were actually on a course. It is a little difficult to figure out the swing at first, as the angle is invariably off. After a few strokes, though, you should get the hang of it.

A power meter indicates the strength and speed of your shot. The wind and other environmental factors are noted, but do not have as much of an effect as has been observed in professional golf games like *Tiger Woods PGA Tour*.

The training mode in golf is actually a lot more fun than playing a campaign. A wind training session will let you play the best game of golf for the Wii, as you try to hit a bullseye with your swing. Only in this case, the bullseye is a small piece of land surrounded by a moat, with dead centre being a hole-in-one. Of course, you can also practise putting and getting yourself out of a sandtrap, but really, how much fun is that going to be?

In our order of preference, the Wii Sport's next best offering is boxing. This is the only game out of the five which makes use of the Nunchuck attachment, where you grasp the WiiMote in one hand and the Nunchuck in the other and put your dukes up. Your virtual Mii tracks and mimics the position of your arms and is going to take his signals from you. So start laying the old one-two on your opponent



before he gets the better of you. Be warned though, this is one game that can leave you with a serious arm-ache!

Also, if you hold your hands together and bob around from one side to the other, your Mii will do the same on screen. This is very useful when it comes to dodging your opponent's attacks, although the sensitivity isn't high enough for you to escape every time.

The training mode for boxing will let you practise dodging, as you weave and duck under your opponent's jabs. Float like a butterfly, indeed!

The last game that we actually do feel like playing on Wii Sports is bowling. This one is more of a party game, best enjoyed with a group of friends than alone.

The controls to play bowling are a lot more complicated than they seem. The WiiMote acts as your ball, and once you pick it up, you have to keep the 'B' button pressed. Holding down the button with your thumb, drag the WiiMote back and swing it ahead while letting go of 'B' – just as you would if you were actually bowling. This part is fun, but the novelty wears off quickly as the AI does not offer much of a challenge. Still, figuring out how to curve the ball by spinning your hand a certain way during release is essential, especially when you enter training mode.

Bowling actually gets a lot more interesting in the training mode, where the computer offers different kinds of pin arrangements to take out. The splits get tougher as you get better, and controlling the ball's release point and your hand's spin becomes more crucial.

The last of the Wii Sports lot, baseball, was definitely the most uninteresting of the games. There is nothing more to it than swinging the bat when the ball comes near you. Timing does not play as much of a crucial role as it does in tennis, with most of our shots going for homeruns in our first few tries.

Pitching is at least a bit more complex as holding down different buttons on the point of release will have you throwing in curveballs, fastballs, etc. Still, the base ease in this is just as noticeable as in batting. In the end, baseball just does not deliver a good time.

Overall, though, Wii Sports is the complete package and we are glad that Nintendo threw it in with the console. The amount of fun you will have with this, especially at parties, far outdoes anything you can achieve with Guitar Hero, Rock Band or SingStar.

### **Super Smash Bros. Brawl**

As kids, we always used to fight about whether Mario was stronger or Luigi. And come on, Link was always so much superior to the two plumbers, right? With Super Smash Bros. Brawl for the Wii, you can finally lay all those arguments to rest! Nintendo has taken inspiration from the WWE's Royal Rumble and made a virtual recreation of it with the who's who of Nintendo's long line of popular characters.

In fact, for the first time, Nintendo has moved beyond its own roster of characters and included popular icons from third party games, such as *Metal Gear*



Link vs. Solid Snake? Mario vs. Sonic? Super Smash Bros. Brawl pits your favourite video game characters against each other

*Solid's Solid Snake* and Sega's *Sonic The Hedgehog*.

Each arena has four players battling it out at a time and the objective, as you must have guessed, is to throw all the characters out of the arena and be the last man (or woman, beast, alien or mythical creature) standing.

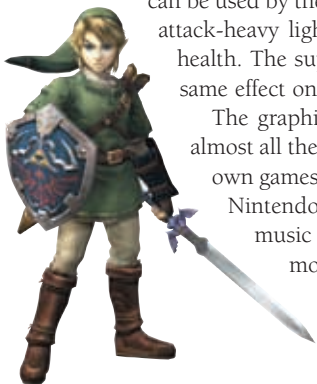
The simple control scheme is typical of Nintendo's approach to even a fighting game, as you use just two buttons (A and B) and the four-way directional pad to take on all comers. One button applies the regular attack while the other will perform a 'smash attack'. But that does not mean motion-sensitivity has gone for a toss: the WiiMote does come into play by registering the angle in which you are holding it when you press the smash attack button to perform different kinds of manoeuvres.

Users can also avail of the Nunchuck attachment as a joystick to move the character, or use the 'classic controller' attachment or GameCube's gamepad.

By performing these attacks, a player fills up the damage meters of other players. As the meter's percentage goes up, the distance the character moves upon being attacked increases. At 100 per cent, the player will fly off the map upon receiving a single hit.

During a battle, different types of items magically appear in the arena, which can be used by the first person to pick them up. These can range from attack-heavy light sabres to little baskets of food that restore your health. The super mushroom is the coolest of the lot, causing the same effect on any character as a mushroom has on Mario.

The graphics in *Super Smash Bros. Brawl* are exquisite, with almost all the characters looking better than they ever did in their own games. The background of each arena is taken from one of Nintendo's vast collection of popular games, as is the theme music that plays throughout. This leads to some funny moments, such as when we once encountered Link and Solid Snake facing each other in the Princess' Castle with the Mario theme running in the background.





Brawls in the single player campaign can be of a specific type (timed, coin-collecting, etc), or you can simply sign up for a tournament with 16 or 32 players and see if you can last the distance.

The game also allows for ample multiplayer options. You can always connect extra controllers to the Wii and take on your friends in a little one-on-one action, or you could log online and participate in the various online arenas that players create.

All things considered, Super Mario Bros. Brawl is among the most entertaining games available on the Nintendo Wii, and a must-have for every buyer.



### Super Mario Galaxy

If there is one game that you should buy with the Wii, it's Super Mario Galaxy. Scratch that – you should buy a Wii just so that you can play Super Mario Galaxy!

Every time we think of the game, we recall a particular intro by Margaret Robertson of Eurogamer when reviewing it: “Super Mario Galaxy is an embarrassment. It's an embarrassment for platform games. It's an embarrassment for adventure games. It's an embarrassment for Nintendo and an embarrassment for the Wii. What have we all been playing at in the ten years since Super Mario 64 came out? This is what gaming ought to be like.”

That pretty much sums up our feelings towards the game. It's the best that the Wii has to offer and is a representation of Nintendo's philosophy for video games: simple, fun, addictive and appealing to everyone. Honestly, it doesn't matter if *Super Mario Galaxy* (SMG) is the first game you are trying to play in your life or if you are a hardened veteran who clocks in three hours of gaming a day – SMG will win you over.

The game brings you another adventure of Nintendo's (and possibly the video gaming world's) most popular character, Mario. Just as our portly plumber is on his way to meet his princess, the big bad Bowser and his son swing by in a spaceship



Widely hailed as the chubby plumber's greatest adventure yet, Super Mario Galaxy is a superstar!





and abduct the princess' castle itself, zooming off into space.

To follow them, Mario takes the help of 'lumas', a species of star-like creature that is stranded on their spaceship, the Comet Observatory, because Bowser stole all their Power Stars. These Power Stars are the fuel for the spaceship and your mission, obviously, is going to be tracking down and retrieving all of them so that you can use the Comet Observatory to then reach Bowser's hideout and rescue the princess.

Each of these Power Stars is hidden away on a planet in a far-away galaxy, where the rules of gravity are not quite the same as on Earth. In some places, you will find yourself jumping up and suddenly landing feet-first on the ceiling, and then continuing walking on that platform. In others, you will be able to walk all around a sphere and jump on to the next one, almost as if your shoes had sticky soles. Want to try jumping from one platform to the other? Good luck trying, because the orientation of gravity will suddenly change mid-jump and you will land on a completely different side of the screen. It's an incredible amount of fun, although some camera angles and rapid movements can make you a bit nauseous.

Of course, the WiiMote plays a big role throughout all of this. Mario's default attack mode is activated by shaking the controller at an enemy – a neat twist on the standard 'jump on his back' technique. And some mini-games harness the motion-sensing capabilities of the Wii, making you perform antics such as balancing yourself as Mario tries not to roll off a giant boulder.

The game also throws in a bit of the classic *Super Mario Bros 3*: the Mario suits are back! A honeybee suit will let you fly around, while an invisibility cloak lets you hide from enemies. There's the authentic firefly suit to throw fireballs, another that lets you freeze liquid to walk on it and a spring suit to reach high platforms.

The cool graphics easily make this the best-looking Mario game in history and a brilliant soundtrack offers remixes of some of the popular Mario themes and tunes.

We cannot stress this enough: if you buy a Wii, you have to buy Super Mario Galaxy with it. Treat this not as a suggestion, but more a directive from higher powers.

## 2.6 WHAT TO BUY

So, now that you have been updated with all the information you would ever need about the three next-gen video game consoles, the big question is all that remains: which is the best?

The answer is none. There can't be a 'best console', just like there cannot be a 'best phone' or 'best burger'. If I tell you that the chicken burger is the best, but if you don't like chicken, then it cannot be the universally 'best' option.

All the three consoles have certain pros and cons and the trick is in figuring out which one is the most ideally suited to you.

First, you have to figure out what kind of a gamer you are. Are you someone who is passionate about video games and will always be looking forward to the latest *Call of Duty* or *Halo* title? Or are you more of a social gamer, switching on your console to play with friends and family, while occasionally enjoying the odd game alone?

### 2.6.1 FOR SOCIAL GAMERS

If you fall into the latter, then your decision just became much easier. The Nintendo Wii is the console you want and there cannot be any argument about it. Sure, Xbox 360 and the PS3 offer several party games such as *Singstar*, *Guitar Hero* and *Rock Band*, but when it comes to having a blast with friends, there is nothing as cool as the Wii.

As an individual gamer, the Wii is still not bad to have around. Some of the single-player games for the Wii are nothing short of brilliant, with the likes of *No More Heroes* and the new *Legend of Zelda* giving you hours upon hours of sheer entertainment.

The key point here is what kind of priorities you have when it comes to gaming. If you are a serious gamer, then while the Wii has quite a few titles available for you, the other two consoles offer a lot more bang-for-buck. But for a social gamer, it's Wii all the way!

### 2.6.2 FOR SERIOUS GAMERS

So, with the idea of social gaming out of the window, it's now down to a decision between the Xbox 360 and the PlayStation 3 when you have acknowledged yourself as a serious gamer.

#### Price factor

The biggest factor in this decision is the moolah.

The lowest model of the PlayStation 3 retails at Rs. 25,000, with each game for it costing somewhere around Rs. 2,500. An extra controller would also set you back by Rs. 3,000. So if you were to buy a PS3 and an average of a single game in a month, that still comes out to an expenditure of Rs. 58,000 in a year. With two games a month, the expenditure goes up to Rs. 88,000 in a single year!

We make our living based on the fact that people buy these games, but it still feels a bit too high even while knowing this contributes to our paycheck...

On the other hand, the lowest-end model of the Xbox 360 retails at Rs. 15,000, with some packages throwing in an extra wireless controller. The wireless controller will set you back by just Rs. 2,250. A slight digression – we recommend that if you are buying a second wireless controller, you buy one for Windows PCs. These controllers are fully compatible with the Xbox 360 and with the receiver, you will also be able to use them to play games on your PC.

Getting back to the price war, the Xbox 360's games cost somewhere around the Rs. 1,900 mark for each title. With a single title each month, the cost still comes to Rs. 40,300 – significantly lower than that of the PS3. And with two titles a month, that cost goes up to around Rs. 63,100.

In terms of value for money, the Xbox 360 wins hands down.

### Game titles

Exclusivity of video game titles has become an integral part of the allure of consoles. It is no longer enough to just look at the price or the features; you also need to know which games you will be getting and which ones you will be missing out on.

The Xbox 360's big exclusive titles include the likes of *Halo*, *Gears of War*, *Project Gotham Racing*, *Fable*, *Assassin's Creed*, etc. In the upcoming list of big games, UbiSoft has decided that *Splinter Cell: Conviction* will be playable only on the 360, giving a massive boost to the console. Valve has also made its disgust for the PS3 known by signing an exclusivity contract with Microsoft for *Left4Dead 2*.

The PlayStation 3, on the other hand, has some great exclusive franchises on its hands, such as *God of War*, *Resistance*, *KillZone 2*, *Heavenly Sword*, *Gran Turismo*, *Formula One*, *Uncharted: Drake's Fortune*, etc.

The big blow to the PS3's campaign, however, came when Kojima Productions announced that the next iteration of its Metal Gear Solid franchise would no longer be a PlayStation-exclusive. The PS3 has long been almost synonymous with the *Metal Gear Solid* series, and the departure of a trusted ally like Kojima does not bode well for Sony.

In this list, it is really up to you as to which set of titles sounds better to you. In terms of future-proofing yourself, the Xbox 360 is a safer bet with a lot of developers not happy with the PS3 for various reasons. Even if they do decide to make games for the console, the idea of PS3 exclusivity does not sound like it's going to be something the publishers jump at.

### 2.6.3 FOR MORE THAN GAMING

When you think of buying a video game, do you intend to use it just for gaming? The PlayStation 3 and the Xbox 360 can do a lot more than just play games, and in fact, are great replacements for DVD players or other multimedia add-ons to your entertainment system.

The Nintendo Wii, of course, is the exception to this rule. If your video game console is going to double up as a multimedia entertainment device, then the Wii goes out of the equation immediately.

While the PS3 and the Xbox 360 both offer various options, Sony wins this battle hands-down for various reasons.

First of all, the Blu-Ray drive. You are getting a future-proof optical disk drive with the PS3 and once the format becomes popular, you will not even have to spend anything extra to buy a Blu-Ray player.

Second, the PS3's previously mentioned upscaling ability. Watching video on a computer screen and watching it on a TV are two very different processes, and the fact that the PS3 makes good use of its RSX graphics unit to enhance the picture quality goes a long way in our book. If it seems like we are making a mountain out of a mole hill, trust us that the upscaling of the device has to be seen to be believed.

Lastly, the PS3's base Linux system lends it towards using and playing back various audio and video formats. The lack of DivX support on the Xbox 360 has to be a clincher in favour of the PS3 for all movie lovers.

#### **2.6.4 FOR THOSE ON A BUDGET**

Sometimes, the only consideration while buying a video game console is the price. The Wii, Xbox 360 and PlayStation 3 are all platforms that you will enjoy gaming on, but you are on a budget at the moment, so the damage to your wallet is the prime concern.

In India, the Xbox 360 is still the least expensive proposition of the three. The Nintendo Wii officially sells at around Rs. 22,000 in electronics retail stores, and each game costing between Rs. 2,250 and Rs. 3,000. Even with conservative estimates for buying a title a month, that's an annual expenditure of Rs. 49,000 – Rs. 9,000 more than our previous estimate for the Xbox 360.

Plus, the support available for the 360 is far superior to that of the Wii or the PS3, thus making it the obvious choice.

#### **2.6.5 FOR THE PIRATES**

Given our job profile, we are often asked by friends and family as to which console to buy. The second question is always: "And does it play pirated games?"

Piracy is big in India, and while we don't condone it, we cannot ignore one of the largest parameters in the buying decision.

For pirates, the question of the PlayStation 3 is moot as the game has not been cracked and cannot play copied disks.


The Xbox 360 and the Nintendo Wii have both been worked over by crackers and are fully compatible with all the thousands of bootlegged DVDs you find in the grey market.

The big question here is reliability. When you crack a console to play pirated games on it, you are voiding the warranty.

This causes a huge problem for the Xbox 360, as the Red Ring Of Death can hit you at any time and you will be left with no option but to chuck that system out of your window.

With the Wii, however, there are no such worries. The 'homebrew' packages and mod chips for the motion-sensing console do not affect its performance in any way, and in fact, enhance it in most cases.

Games for the Wii are also played on standard 4.5 GB DVDs, and thus a pirate with a fast internet connection could very easily never pay more than the cost of a blank disk.

The Wii is definitely the console of choice when you are considering going grey. 

## 3 Handheld Gaming consoles

### 3.1 PlayStation Portable

Video game consoles have not always been about a huge bulking mass that sits next to your television set. Handheld video games have been a great source of novelty and entertainment since the era of the massively popular Tetris right up to the modern age's Nintendo GameBoy.

Gaming has been about portability for a long time now, and with the advent of mobile phones, it became even more so. The idea of playing a quick game while you are travelling to school, college or office was enticing. But cell phones, given their limitations, obviously did not offer a great gaming experience.

With the success that the PlayStation 2 was seeing, Sony was ready to move on to the next big venture. By 2003, the hardware that went into the original PlayStation had become miniaturised to the extent that it could be fit into a tiny form factor that could be held in one's hands. There was an opportunity here and Sony wasn't going to let go.

On 12 December 2004, the Sony PlayStation Portable (PSP) first went on sale in Japan, quickly selling over 2,00,000 units on the first day. The mega-hit console has gone on to have quite a few variations from that first base model and is considered an "essential commodity" for serious gamers.

#### 3.1.1 HARDWARE

##### Design

The responsibility of designing the PlayStation Portable fell on Sony's Shin'ichi Ogasawara, and what a wonderful job he did with it. The PSP is a flat, candybar



The flat, candybar device is quite chic to look at and a treat to use, ushering in the era of high-end graphics in handheld gaming

device that measures roughly 6.7x2.9x0.9 inches and weighs just under 300 grams.

The most striking feature, without a doubt, is the large 4.3-inch LCD screen that displays 16 million colours at a resolution of 480x272 pixels.

On the right of the screen are the four standard buttons found on the DualShock and SixAxis – Cross, Square, Triangle and Circle.

On the other side of the screen, users will find a four-way navigational pad for movement as well as an analogue ‘nub’ below it.

Below the screen, a row of buttons provides options such as the PlayStation Home button, increasing and decreasing volume, ‘Select’, ‘Start’, music settings and screen settings.

The corners at the top of the PSP feature two translucent ‘bumper’ buttons, which imitate the functions of the L1 and R1 buttons on the DualShock.

#### Processor and GPU

The main microprocessor of the PlayStation Portable is a multifunction device named “Allegrex” that runs two 333 MHz R4000-based CPUs. The hardware was originally forced to run more slowly than it was capable and most games ran at 222 MHz. However, with firmware update 3.50 on 31 May 2007, Sony removed this limit and allowed new games to run at a full 333 MHz.

The PSP relies on a tiny graphics processing unit. The whole system has 32 MB main RAM in the original PSP and 64 MB in the PSP 2000 and subsequent series, and 4 MB embedded DRAM in all models. Out of these 4MB of eDRAM, 2MB is dedicated to the GPU and 2MB is further dedicated to the Media Engine secondary processor.

#### UMD Drive

Just like the PlayStation 3 was the launching point for Sony’s Blu-Ray optical format for 12-cm disks, the PSP was expected to do the same for the company’s proprietary ‘Universal Media Disk’ format for 6.5cm disks.

A single-layer UMD disk can hold around 900 MB of data, while a dual-layer UMD disk can store approximately



The PSP uses a proprietary disc called the UMD, which makes the main console a whole lot thicker than it needs to be

1.8 GB of data.

The UMD did not take off despite it being bundled with the PSP and the format has since been abandoned by Sony on the latest model of the handheld console, the PSP GO.

The lack of copy-protection options on the UMD disks was also seen as one of the major reasons that piracy was rampant on the PlayStation Portable.

### Storage

For the PlayStation Portable, storage is completely restricted to memory cards. Since it is a Sony device, the company obviously threw in a slot only for its proprietary Memory Stick Duo cards. Users can also use Memory Stick Micro cards with a Duo adaptor.

While older versions of the PSP supported no more than 4 GB cards, the latest version (PSP-3000) along with the latest update claims to be able to support cards of up to 16 GB in size.

While doing away with the UMD drive, the upcoming PSP GO is expected to pack 8-16 GB of onboard flash memory. This is being seen as a sign that Sony is going into online retail distribution for further video game sales on the PSP.

### Connectivity

The PlayStation Portable is equipped with a Wi-Fi chip that allows it to connect to any live connection. More importantly, this enables the PSP to form WLAN connections with other PSPs in the vicinity for multiplayer gameplay.

This allows 2-16 players with PSPs to create a local, ad hoc network for multiplayer gameplay; or send images from one PSP to another by use of the 'send' and 'receive' functions that appear in the 'PHOTO' menu; or even connect to a PlayStation 3 via Remote Play.

Currently, no version of the PSP is equipped with Bluetooth technology.

The PSP also features ports for TV out and a standard 3.5 mm audio jack to connect your favourite headphones.

### Battery

The PSP's default battery life varies widely depending on application from less than three hours while accessing a wireless network and having screen brightness on its highest setting, to more than 11 hours during MP3 playback with the screen turned off. An extended-life 2200 mAh battery will increase this by approximately 20 per cent.

A sleep mode is also available that uses minimal battery power to keep the system's RAM active, allowing for 'instant on' functionality. A system in sleep mode (with a fully-charged battery) has been shown to lose an average of only 1 per cent battery life per 24-hour period.



### 3.1.2 ACCESSORIES

#### Go! Cam

If there is one thing that the PlayStation Portable is missing as a multimedia device, it is a built-in Webcam.

The PSP already allows for Voice Over Internet Protocol (VoIP) calls to be made, opening up the doors for services like Skype. However, video chat is not an option.

What's more, while you are carrying around a great multimedia gadget, the lack of a camera renders it useless for a lot of tasks.

That's where the Sony Go! Cam comes in...

Attached to the PSP via the USB connector on top of the system, Go! Cam fits neatly in place enabling you to shoot movies and take pictures wherever you roam.

A swivel mount means you can pivot the camera lens 180° – either facing in the same direction as the screen or directly away, and anywhere in between.

The camera has a 1.3-megapixel sensor, thus letting you click photographs of 1280x960 pixels in resolution and videos of 480x272 pixels at 30 frames per second.

With a 4 GB Memory Stick Duo inserted in your PSP, you can record around 90 minutes of video footage at the highest quality, instantly being able to playback the action on the PSP system's gorgeous screen.



Able to click pictures and shoot movies, the PSP Go! Cam's swivel mount means you can pivot the camera lens 180 degrees - either facing in the same direction as the screen or directly away, and anywhere in between.

#### Logitech PlayGear Street Case

If you do buy a PlayStation Portable, be advised that the device is not the sturdiest piece of machinery on the market. The number of people who have dropped their PSP and never been able to use it again is startling!

What's more, the LCD screen of the PSP is particularly fragile and does not take kindly to scratches.

All in all, protection is paramount to the PSP and the best case to envelop it that we have seen has to be the Logitech PlayGear Street Case.

Made of virtually indestructible polycarbonate armour, the case protects your PSP from bumps and crashes, as well as having slots for storing up to three UMD disks and four Memory Stick Duo cards at a time.

Logitech has also made a convenient outlet for your headphone jack, along



Made of virtually indestructible polycarbonate armour, the Logitech PlayGear Street Case protects your PSP from bumps and crashes, as well as allots slots for storing up to three UMD discs and four Memory Stick Dup cards at a time

with throwing in cord management, for those who like to listen to some tunes on their PSP.

It comes with an adjustable strap letting you wear it comfortably three different ways – carried as a shoulder bag worn across your chest; messenger style; and attached to a backpack.

The PlayGear Street Case isn't easily available in the retail markets in India, so your best bet is to look online or go for a walk through grey markets.

### 3.1.3 INTERFACE

#### XrossMediaBar

Before the Xross Media Bar (pronounced 'Cross Media Bar') ever came to the PlayStation 3, it was cavorting around on the PSP.

On the PlayStation Portable, once a category is selected, its options appear below the icon, selectable by pressing right on the directional pad. Going back is possible by pressing the left directional button or the Circle or X button. Some items have an option menu that can be displayed by pressing the Triangle button.

The XMB is capable of limited multitasking. This is accessed by pushing the 'Home' button on the 1000 and 2000 PSP version and the "PS" button on the 3000 PSP, while listening to music, looking at photos, etc.

This feature can be used to watch a video, look at a certain photo, listen to music, and look at the current web page, all while browsing the XMB. However, what is in the background will be cancelled if any item is accessed on the XMB.



The background colour on the Xross Media Bar interface changes periodically, cycling between 12 colours

Like the PS3, the background colour on the XMB changes periodically. However, it is not as frequent as the PS3's fortnightly cycle, and has only 12 set colours depending on the current month. Of course, the background colour can always be changed or the background can be changed to a picture.

#### Remote Play

Remote Play is a feature that allows a PlayStation Portable user to interact with their PlayStation 3's Xross Media Bar. Users can access music, videos, photos, PlayStation games, and various applications stored on the PlayStation 3's HDD, or external flash drives and optical media attached to the PlayStation 3.

Remote Play works by encoding a live video stream of the output image on a PS3, then delivering it over a wireless network connection to a PSP. Actions performed on the PSP such as the pressing of buttons are uploaded back to the PlayStation 3 over the same connection.

The audio may also be sent to and played by the PSP, or instead delivered through the normal PS3 audio connections, thus allowing the PSP to be used as a remote control



Remote Play is a feature that allows a PSP user to interact with his PlayStation 3 to access music, videos, photos, PlayStation games, etc.

for a PS3 acting as a media player. This is particularly useful if the PS3 is connected to a video projector, as it means one doesn't have to start the projector in order to play music.

The latest update includes the ability to use Remote Play across the internet, turn your PlayStation 3 on remotely, use a few applications, and play all PlayStation 1 games, whether stored on the HDD or on an optical disc.

In actual gameplay, the Remote Play can also enable the PSP to double up as an add-on tool. Demonstrating a few racing games, Sony showed how Remote Play could have the PSP acting in-game as a rear view mirror to assist the player in the game.

### Game Sharing

Some titles for the PlayStation Portable support a feature called 'gamesharing', which facilitates a limited set of multiplayer features between two PSPs with only one copy of the game UMD.

In this, a reduced version of the game being shared is transferred to the second PSP without a UMD via the first PSP's Wi-Fi connection, it then is loaded into RAM and executed.

Such 'gameshare' versions of titles usually have their feature set reduced because of technical limitations. This is mainly due to transfer times since data for the game must be transferred to the second PSP wirelessly, at a rate of 11 Mbps.

Some popular games allow for gamesharing, including the likes of *Metal Gera Solid: Portable Ops*, *LocoRoco*, and *Patapon 2*.



The size of the UMD and its disc-like handling makes it very difficult to carry around

### 3.1.4 WHY IT RULES

Graphics – while the Nintendo DS never concentrated on awe-inspiring visuals in video games, the PlayStation Portable can be single-handedly credited with bringing next-generation 3D graphics to the handheld genre of games.

The PlayStation Portable's advanced hardware provided the platform for developers to really crunch out some magnificent visuals in their games, with the likes of *God of War: Chains of Olympus*.

This processing power also led to the ability of the PSP to render high-resolution

videos when watching movies and other data.

### 3.1.5 WHY IT SUCKS

UMD – without a doubt, the greatest failing of the PlayStation Portable is the Universal Media Drive. The format was a complete disaster and caused more trouble than good.

More importantly, the size of the UMD and its disk-like handling makes it very difficult to carry around. With the DS cartridges, you can freely hold them from both sides like a video cassette, without risk of damaging the data. On a UMD, however, the handling is similar to that of a CD or DVD – a clumsy and difficult proposition at that size.

Fragility – if there is one aspect in the entire hardware of the PSP and the DS where the latter scores, it is in the sturdiness of the device.

Even with the slightest of mishandling, the PSP is prone to get scratches on its screen and body. The glossy finish also tends to make it difficult to grasp at times, and the device can become completely in-operational with a severe fall.

The need to handle the device with kids' gloves and the added weight of a sturdy case makes the PSP a bulky and high-maintenance proposition in the long run.

## 3.2 Nintendo DS

With Sony coming out with a new handheld video game console, the grandpas of the portable gaming world were not going to sit back and watch. Nintendo's GameBoy had ruled the genre for the past decade and the company had no intention of handing over the mantle.

But word had already got out about how the PlayStation Portable was going to be a behemoth in terms of hardware, with a large screen to boot. Sony wanted to bring serious gaming to the handheld world, while Nintendo's strong point has always been about 'fun' games that appeal to people across several age groups.

It is difficult to hit a middle ground where developers are free to unleash their creativity in coming out with new games while making the platform approachable for the consumer without making him have to learn a lot of new things. But if there was one company that could do it, it was Nintendo.

President Satoru Iwata said: "We have developed Nintendo DS based upon a completely



different concept from existing game devices in order to provide players with a unique entertainment experience for the 21st century."

On 21 November 2004, Nintendo released the device in North America, and has so far sold almost 102 million handsets across the world.

### 3.2.1 HARDWARE

#### Design

Unlike the candybar design of the PlayStation Portable, the Nintendo DS featured a clamshell design, with each part of the two halves having a 3-inch TFT-LCD screen (256x192 pixels resolution) in the centre. The name of the system, 'DS', is claimed to derive from this Dual Screen approach.

However, the dual screen was not all that was going into changing the way handheld games were played. The lower display of the Nintendo DS was overlaid with a touchscreen, designed to accept input from the included stylus, the user's fingers, or a curved plastic tab attached to the optional wrist strap.

The touchscreen allows users to interact with in-game elements more directly than by pressing buttons; for example, in the included chatting software, PictoChat, the stylus is used to write messages or draw.

The latest iteration of the console, dubbed the DSi, has two larger TFT-LCD screens at 3.25 inches, capable of displaying 256K colours.

Traditional controls are located on either side of the touchscreen. To the left is a four-way navigational pad, with a narrow Power button above it, and to the right are the A, B, X, and Y buttons, with narrow Select and Start buttons above them. Shoulder buttons L and R are located on the upper corners of the lower half of the system. The overall button layout is similar to the controller of the Super Nintendo Entertainment System.

The Nintendo DS also features stereo speakers providing virtual surround sound (depending on the software) located on either side of the upper display screen. This is a first for a Nintendo handheld, as the Game Boy line of systems has only supported stereo sound through the use of headphones or external speakers.



The name of the system, 'DS', is claimed to derive from the Dual Screen approach, with the bottom one supporting touch input

A built-in microphone is located below the left side of the bottom screen. It has been used for a variety of purposes, including speech recognition, chatting online between and during gameplay sessions, and minigames that require the player to blow or shout into the microphone.

Summing up, the 5.85x3.33x1.13-inches device weighs a very handy 300 gms.

#### Processor and Graphics

While IBM might be the king of processors and chips for high-end computing, there is no one close to ARM when it comes to processors for mobile platforms. The addition of a touchscreen meant that the DS would require some great processing power, and ARM was up to the challenge.

The console uses two ARM processors – an ARM946E-S main CPU and ARM7 co-processor at clock speeds of 67 MHz and 33 MHz respectively. The former processes gameplay mechanisms and video rendering while the latter processes sound output, Wi-Fi support and other peripheral functions.

The system has 656 KB of video memory and two 2D engines (one per screen). These are similar to, but more powerful than, the Game Boy Advance's single 2D engine.



The DS has been around for a long time and undergone some changes to its body, with the new DSi even throwing in a camera

Overall, the Nintendo DS is fitted with 4 MB of RAM.

With the new DSi, the company has modified some of the hardware, such as the main CPU and the RAM. It has two ARM architecture CPUs – ARM9 and ARM7, with the main CPU being clocked at 133 MHz.

The DSi also has four times as much RAM as previous models, coming with a whopping 16 MB.

#### Game Card Drive

Unlike the Wii, Nintendo stuck with a proprietary format for its Nintendo DS

cartridges, called 'game cards'.

The game cards are 33.0 mm × 35.0 mm × 3.8 mm (about half the breadth and depth as Game Boy Advance cartridges) and weigh around 3.5 grams.

The proprietary solid state ROM 'game card' format resembles the memory cards used in other portable electronic devices such as digital cameras. It currently supports cards ranging from 8-256 MB in size.

The cards usually have a small amount of flash memory or an EEPROM to save user data such as game progress or high scores, but there is a small number of games that have no save memory such as *Electroplankton*.

Due to the inclusion of this particular format, the Nintendo DS does not allow for any other type of storage media on the device. Hence, the DS acts as a game console and cannot double up for multimedia purposes. The DSi, however, allows ample multimedia opportunities.

The Nintendo DS is also backwards compatible, and includes another slot for GameBoy Advance cartridges. This slot also doubles up as a port for hardware accessories.

### Storage

The DSi was the first model of Nintendo's handheld gaming consoles to come with built-in memory, as the console is equipped with 256 MB of internal flash memory.

The gizmo also allows users to use media functions by loading up their own SD/SDHC cards of up to 32 GB in size in a new card slot behind the cover on the right-side of the handheld.

### Connectivity

Connecting to the internet and playing with friends is an integral part of modern gaming, and Nintendo has recognised that in the DS. The console is fitted with a Wi-Fi chip that enables it get to online, or even create a WLAN connection to play with other DS users nearby.

### Camera

While the previous models did not come with the ability to click photographs or use video chat, the DSi changed all that with the introduction of two cameras.

The handheld has two VGA (0.3 megapixel) digital cameras; one on the internal hinge pointed towards the user and the other in the outer shell.

### Battery

The Nintendo DS contains a rechargeable lithium-ion battery with a capacity of 850 mAh. On a full four-hour charge, the factory 850 mAh battery lasts about 10 hours.

Battery life is affected by multiple factors including speaker volume, use of one or both screens, back lighting, and use of wireless connectivity. The biggest effect



on battery life is caused by using the backlight, which can be turned off in the main menu screen, or in selected games (such as Super Mario 64 DS).

To sustain battery life in the midst of a game, users can close the Nintendo DS system, putting the DS in sleep mode that also pauses the game that is being played.

The battery is not replaceable and is designed to be removed only when it expires.

### 3.2.2 ACCESSORIES

#### Rumble Pak

While handheld consoles strive to offer many of the features that their full-fledged counterparts do, sensory feedback has always been a missing element. The idea of the entire controller vibrating when you received impact or damage has never gone down well... until the DS!

Nintendo threw all preconceived notions out of the window and introduced the 'Rumble Pak' add-on that brings force feedback to the DS.

Shaped like a Game Boy Advance cartridge, the device is designed to be inserted in the system's Game Boy Advance game slot (SLOT-2). In fact, it was the first DS accessory to utilise the slot.

Although the Rumble Pak works with both the Nintendo DS and the redesigned Nintendo DS Lite, it protrudes from the Nintendo DS Lite when inserted, as do Game Boy Advance cartridges, because of the DS Lite's smaller size. For this reason, a smaller version of the Rumble Pak is available in Japan, which is flush with the system when inserted.

Some flash cartridges for the Game Boy Advance have a built-in rumble feature that, when used in tandem with a SLOT-1 flash card on a DS, can provide rumble as if it were an ordinary Rumble Pak.

#### DS Headset

The official headset for the Nintendo DS plugs into the headset port (which



Shaped like a Game Boy Advance cartridge, the Rumble Pak brings force-feedback to the handheld console



With one earphone and one microphone, the Nintendo DS headset is used for a lot of games as well as multiplayer gaming over Wi-Fi

is a combination of a standard 3.5 mm headphone connector and a proprietary microphone connector) on the bottom of the system. It features one earphone and a microphone, and is compatible with all games that use the internal microphone.

### Play-Yan

The Play-Yan is a media player for the Nintendo DS/Game Boy Advance. It uses SD flash memory to play MP3 audio files and H.264/MPEG-4 AVC video files. It can also play 13 bonus mini-games.

## 3.2.3 INTERFACE

### PictoChat

PictoChat is a communication utility included with the Nintendo DS. Up to 16 people can paint-chat with each other using it, connected wirelessly through a system-to-system wireless connection. It allows for simple input of keyboard text and written text/drawings.

It has a very simple interface. One of the main techniques is to write or draw on the touchscreen with the stylus. One can also type a message by touching the on-screen keyboard or by using the Control Pad to select the letter and A to type it. In addition, one can drag letters from the keyboard to move them anywhere in the chat window.

Pressing select or the retrieve button (the button under the Send button) will recall the image at the bottom of the top screen.

Clicking on one's name or another user's name will reveal his or her colour and profile.

PictoChat also allows users to play drawing games.

### Nintendo Wi-Fi Connection

The Nintendo Wi-Fi Connection is an online multiplayer gaming service run by Nintendo to provide free online play in compatible Nintendo DS games.

It was developed to be easy to connect to, safe for everyone to use, and free.



PictoChat is a communication utility included with the Nintendo DS that allows up to 16 people to 'paint chat' with each other, connected wirelessly through a system-to-system wireless connection.

Games designed to take advantage of Nintendo Wi-Fi Connection offer internet play integrated into the game. The Nintendo Wi-Fi Connection can support up to eight players on the DS.

Basic features of the Wi-Fi Connection include worldwide matchmaking, leaderboards, tournaments, and downloadable content. Additional features are available between two friends who have exchanged Friend Codes.

Currently, there are 93 DS games available worldwide that support the Nintendo Wi-Fi Connection.

### Download Play

The PlayStation Portable isn't the only handheld console that lets you play games with your friends even though they may not own the disk.

With Download Play, it is possible for users to play multiplayer games with other Nintendo DS systems using only one game card. Players must have their systems within wireless range (up to approximately 60 feet) of each other and the guest system to download the necessary data from the host system.

### DSi Menu

The menu interface of the DSi console consists of icons representing the system's applications (in a similar layout to the Wii's menu). There are seven primary icons: card software, Nintendo DSi Camera, Nintendo DSi Sound, Nintendo DSi Shop, DS Download Play, PictoChat and system settings.

Separate icons are graphically displayed in a grid and are navigated using a stylus or the D-pad. It is possible to change the arrangement by dragging and dropping the icons using the same input methods.

The console's power button serves as a soft reset to return to the main menu for DS software.

### DSi Sound

With the introduction of onboard flash memory and the addition of a slot for SD cards, the DSi upped the multimedia capabilities of the handset. While its video playback is still not up to scratch, the DSi does not suffer in the audio department.

The in-built audio player, called DSi Sound, serves as a voice recorder and music player for AAC audio and some of its filename extensions (MP4, M4A, 3GP), but does not support MP3s.

This player allows users to adjust pitch, playback and add filters while audio is playing. Audio can also be listened to while the device is closed.

The audio player allows users to save and modify up to eighteen ten-second sound clips from voice recordings (recorded via the internal microphone) and then apply them to songs.

### 3.2.4 WHY IT RULES

#### Touchscreen

The Nintendo DSi wanted to bring in a change to the way games are played, and it did so splendidly with the introduction of the touchscreen interface in the lower half of the dual screens.

The gameplay gets so innovative with this addition, and one can sense that developers relish the challenge of creating a game for the system.

The fact that the touchscreen doubles up for various other tasks, such as the PictoChat, is only icing on top of a delicious pastry. While the stylus and handwriting recognition has lost out to thumb-based touch interfaces now, the DS remains very easy and delightful to operate.

#### Backwards compatibility

In coming out with a new console, it is easy to ignore what you have done before. Sony made the mistake with the PlayStation 3, as a lot of consumers never upgraded to it because their collection of old PS2 titles would be rendered obsolete.

Nintendo, thankfully, avoided this mistake with the DS; in fact, it bent over backwards to make sure that the customer could use his old GameBoy cartridges by not only including a slot for it, but throwing in the GameBoy processor for games that required it.

The latest version of the console, the DSi, has phased out this GameBoy slot, but has only done so after most of the popular titles have become easily available to play through online downloads or emulators.

### 3.2.5 WHY IT SUCKS

#### Video playback

While the dual screens of the Nintendo DS brought a change in handheld gaming, they also took out any possibility of the system doubling up as a multimedia playback device.

Initially, it did not act as an MP3 player either; but the new DSi fixed that aspect, and also brought in a camera.

However, watching a movie on the handset while on-the-go remains a distant dream. In fact, even if Nintendo were to start supporting the codecs necessary for it, it would remain a horrible viewing experience because of the form factor alone.

Nintendo made a great gaming device with the DS, but it can never fill the all-round shoes of the PlayStation Portable.

### 3.3 Comparison Table

Name	Sony PlayStation Portable	Nintendo DS
Dimensions	6.7 + 2.9 + 0.9 inches	5.85 + 3.33 + 1.13 inches
Weight	280 gms (PSP Lite - 189 gms)	275 gms (DSi - 214 gms)
Launch	December, 2004	November, 2004
Interface	Xross Media Bar	Nintendo DS Menu
Screens	4.3 inches	Dual 3-inch screens (DSi - 3.25 inches)
Resolutions	480x272 pixels	256x192 pixels (each screen)
CPU	333MHz ARM processor	Dual processors of 67 MHz and 33MHz (DSi - ARM 133 MHz)
Memory	32MB EDRAM	4MB RAM (DSi - 16MB)
Optical Drive	Universal Media Drive	Nintendo DS Cartridge
Memory card	Memory Stick Duo	None (DSi - SD/SDHC card)
Connectivity	1 microUSB port (PSP Go - Bluetooth)	Game Card
Network	Wi-Fi	Wi-Fi
Online Service	PlayStation Network, RSS reader, Skype, PlayStation Store	Nintendo Wi-Fi Connection ,DSi Shop
Battery Life	14 hours (DSi - 19 hours)	6 hours

### 3.4 Popular Titles

#### 3.4.1 PLAYSTATION PORTABLE

##### God of War: Chains of Olympus

The *God of War* series redefined and refined the action gaming formula with its awesome boss battles and its raw, uncut gore and nudity. Which reminds us, here's a disclaimer up front: do not buy this game for those under 18 years of age!

Now, the protagonist Kratos returns in a handheld avatar of the series with *Chains of Olympus* for the PSP.

The storyline is simplistic and straight-forward: Kratos was making merry in a life full of frays, when one day, the *God of War* bestowed upon him a wicked set of daggers that are attached to his forearms by magical chains.

This title is a prequel of sorts, following Kratos in his days of servitude as a mercenary lapdog of the Greek gods. Much like the previous games, Greek mythology makes a cool backdrop for some wild violence.

*Chains of Olympus* is immense fun, as you hack and slash through scores of well-rendered enemies to score orbs. These orbs power up your blades and other magical abilities. Quite simply, the more hits you land, the more orbs you get.



Greek mythology comes to the small screen with *God of War: Chains of Olympus*, as Kratos hacks and slashes through scores of well-rendered enemies to deliver immense entertainment

Ever so often, you face a big baddie like a cyclops or the first boss, the Baslisk. Once you pummel these foes, you enter one of the series' hallmark mini-games, which are all about getting the timing right upon prompting. Each press of the indicated button will have Kratos launching himself on the foe, ripping out eyes, disembowling them, tearing off limbs, bashing in heads – it's all very red and satisfying!

The game isn't all muscle-bound mayhem, though. Sometimes, entire stages are well thought-up puzzles that will test your mental faculties. They're not too tough, so we suggest you figure them out rather than scurry for a walkthrough.

The graphics are the best on the PSP to date, with beautiful architecture complimented by some very life-like lighting. The enemy models are impressive, with plenty of enemies on screen to beat up; and the big baddies do look quite intimidating. All in all, the overpowering *Chains of Olympus* seem to pop out of the small screen.

While tons of fun, it is all sadly short-lived. A long afternoon is all it takes to get through the game, and will leave you wishing for more. Oh well, good things come in small packages and all that.

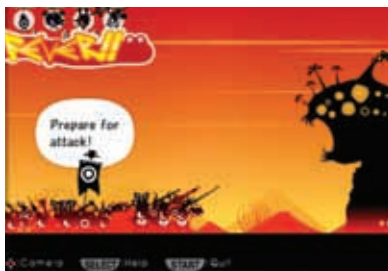
*Chains of Olympus* is the most perfect game on a handheld system. For those with a daily, long commute, here is the reason to buy a PSP. Just make sure you don't gouge out the eyes of the guy peeking over your shoulder.

## Patapon

The idea of combining a rhythm-based gameplay into a strategy game seemed a bit strange at first when the game's associate producer Chris Hinojosa-Miranda first explained the concept: "You tap out a drum beat using the PSP's buttons and control your tribal warriors to execute manoeuvres."

It sounded terribly complex and not the kind of game that would appeal to many. But the developers at Pyramid Studios were undaunted and believed in their own ability. And are we glad they stuck with it...

*Patapon* changes the way you look at video games, uprooting base conceptions



You tap out a drum beat using the PSP's buttons and control your tribal warriors to execute manoeuvres'. No game comes close to being this addictive!

and completely tossing them around to come out with a whole new approach to gaming.

The story goes that the Patapon were a flourishing people until they were defeated by the evil Zigoton Empire. In the game, you play the role of their god and use your war drums to direct the tribe to the end of the world in search of 'IT' – a mystical object that promises to solve all their troubles.

As was suggested, Patapon is a 'rhythm-based' game. Each button of the PSP has a different beat assigned to it and the combination of these beats will have you composing rhythms. That's right, you will be making music to guide your soldiers!

The game slowly introduces different types of rhythms and the action associated with them. The drum beats are accompanied by your tribe chanting 'Pata-pata-pata-pon', creating a unique blend of vocal harmony and drums. Be warned, though, that these rhythms are going to get stuck in your head for a really long time!

Different rhythms make them perform different tasks and it can get quite mesmerising. At first, controlling a rhythm while also devising strategies to defeat your enemy can be a bit of a challenge in multi-tasking. However, by the fifth or eighth level, you should get used to the balance and be tapping your way to new attacks like a pro.

Timing your attacks well and getting them in a combo-like sequence will activate the Fever Mode, with your tribe rapidly advancing across the 2D battlefield. The visuals are quite cool, with a silhouette-like style that is backed by bright colours. The environments of each level are an integral part of the game, as desert sands will slow down your infantry while strong winds send your arrows astray.

After completing each of the 30



missions, you are awarded a certain number of points and sent to a pre-mission screen, where you can upgrade your army using the items you have collected, such as weapons, armour, food, money, etc.

Incredibly cool and introducing a whole new style of gaming, *Patapon* is a must-have for all gamers on the PSP.

### Burnout Dominator

When it comes to arcade racing games, nothing holds a candle to the *Burnout* series – nope, not even the *Need for Speed* franchise. *Burnout Dominator* has been around for almost three years now, but the game still remains the most fun you will have while racing on the PSP.

*Dominator* is bit more racing-minded than its predecessors, where crashing into other cars took top priority. Here, on-track prowess is what matters, although you will still be muscling out other drivers when you can!

The feature that strikes you the most upon first playing *Burnout Dominator* is the feeling of sheer speed it offers. The game feels fast... really, really fast! While we are sure that driving at speeds of almost 350 kph would make the scenery a lot more blurred than the game depicts, it still gets your adrenaline pumping.

And *Dominator* concentrates on the 'Burnout' aspect once again, requiring you to drive right on the edge. The more near-misses you have, the more opponents you take down, the more death-defying stunts you perform and the faster your 'Burnout' nitrous boost will fill up. Once it's topped, hit the X and never let go to get an otherworldly boost. The Burnout will last as long as you don't crash, so extremely skilled drivers could easily go through lap after lap with it firing.

Apart from standard start-to-finish races, the game has seven racing modes to keep you entertained in the single-player campaign: Manic Mode, Eliminator, Drift Mode, Burnout, Burning Lap, Road Rage and Near Miss. Eliminator is the most entertaining of the lot, where it pits you against four drivers. Every 20 seconds, the car in last place is eliminated. Your objective, naturally, is to be the one that survives.



The feature that strikes you the most upon first playing *Burnout Dominator* is the feeling of sheer speed it offers. The game feels fast... really, really fast!





Seven seems to be a lucky number for the guys at Electronics Arts as that's also the number of car series that they offer in the game: Classic, Factory, Tuned, Hot Rod, Super, Race Specials and Dominator. As is the wont in most modern games, you will unlock new cars as you progress through the campaign, with each new series bringing more horse power and eye-candy to the tracks.

It should be noted that the handling for each series of cars is varied, unlike quite a few games where unlocking a new car just means that your speed and acceleration is boosted while the handling gets finer.

Burnout Dominator also lets you connect with up to three players at a time for a little multiplayer action. You can do this via a WLAN connection with consoles physically near you, or get online through the PSP's Wi-Fi and start playing with your internet friends.

The one terribly annoying aspect of the game, though, is the awful soundtrack. We trust that Avril Lavigne paid the developers a truckload of money to use her songs almost exclusively, because the only other explanation is that someone at EA has very bad taste in music. It can get really annoying after a while, and you end up wishing the developers would just include an option to load up your own music or download extras.

Still, that's a minor pothole in what is otherwise the most entertaining racing video game on the PlayStation Portable. We can almost guarantee that you will have an absolute blast with this one.

### 3.4.2 Nintendo DS

#### Grand Theft Auto: Chinatown Wars

Crime, vice, corruption and drug dealing are all now in the palm of your hand. The new Grand Theft Auto hits on the unlikelyst of gaming consoles, the Nintendo DS, which is normally associated with the endless *Pokemon*, *Mario* and *Megaman* games.

Yet, despite the small form factor and the low graphics capabilities, *Chinatown Wars* is nothing short of stunning and even better in some respects than its big brothers.

In the game, you play as Huang Lee, who's coming back home to Liberty City from China to deliver his family sword "Yu-Jian" to his uncle. Complications occur



Crime, vice, corruption and drug dealing, all now in the palm of your hand - here's GTA Chinatown Wars!

when our protagonist is robbed on his way and left for dead, when he vows to find the sword and punish the perpetrators.

Of course, this sends you around Liberty City, doing odd jobs, killing, stealing, driving, etc. And along the way, you get to meet some of the quirkiest characters – from a wannabe street racer Chan to the drug addict undercover cop Wade.

If you aren't familiar with the *Grand Theft Auto* series, they are one of the most popular sandbox style games developed by Rockstar. Sandbox games allow you to go anywhere, drive everywhere and shoot anything.

Chinatown Wars takes the legacy of the *GTA* series and pushes it up several notches. Played from a top down perspective, you see the action from a bird's eye view, which takes some getting used to.

As the name suggests, a majority of the game involves driving around town. The fun part is that if you jack a car, there's a lot of fun mini-games that come with it. For example, when you remove a toolkit from your pocket, you whip out the DS stylus and join wires, or hack the computers of the more advanced cars, or even



jimmy the keyhole. There are lots of other mini-games like this that give the game a real world charm.

The driving itself is excellent, with each car having its own physics and handling. You can drift through curves, ram into other cars or drive at breakneck speed. Naturally, with all that mayhem, you will continually have the cops on your tail. The only way to shake them off is to decimate them!

*Chinatown Wars* is a seriously long game, with way too much to fit into the space of a review. The main storyline will have you go on a series of diverse missions that range from your usual getaway and robberies to tailing people and general carnage.

While you are not following the main storyline, you get lots of side missions, all from your PDA. Of these, the drug dealing campaigns are the most entertaining, where you essentially have to keep tabs on what region wants which drug and where you can buy a certain drug for a steal. While this might sound boring and like running a business, you will definitely find yourself playing this for hours on end.

The graphics, sound and writing is top notch. There might not be voice acting and cutscenes, but the illustrations that push the story along are excellent, and the dialogue is sarcastic and witty.

*Chinatown Wars* is hands-down one of the best games on the DS to date. It is worth every rupee of your wallet and every minute of your time.

#### **The World Ends With You**

What if you died, and then woke up in the most popular district in Japan as a part of a game, where you had to survive for seven days to come back to life. Sounds crazy? Well, the Japanese are known for a bit of kookiness, after all.

*The World Ends With You* is undoubtedly one of the most original and freshest games on the DS. It starts off when Neku – a shy and reserved boy – dies in mysterious circumstances. He wakes up with no memories in an alternate version of



The fighting system of *The World Ends With You* has a steep learning curve, but is worth the reward!

Shibuya, Japan's most popular shopping district, in a game run by beings called Reapers.

The game lasts for over a week and the grand prize is that he will get his life back. However he must partner with someone in order to survive. For Neku, the loner, his quest for life forces him to choose from one of three partners: the fashionista Shiki, the clever Joshua and the tough Beat.

The gameplay is quite intense, as each character takes up one of the dual screens. You control both you and your partner, using all of the DS functions. Yes, you yell into the DS mike, slash on the touchscreen, drawing shapes and lines to summon giant icicles, and use the command buttons furiously to win.

The enemies take on the form of small tattoo-like creatures that emerge from the "noise". To get powers you have to equip pins that resemble the funky, circular ones you put on bags. Each pin grants you powers, and each district within Shubiyia is governed by fashion. If your brand is the hottest in that particular area, then you get extra damage and drops bonuses. Fashion as a strategy element? These Japanese are crazy!

While the game might play out like an action game, it feels more like a role-playing game (RPG). The more you battle, the more experience points you gain. And you can pump up the difficulty on the fly to net some rare pins and extra XP. Collecting all the pins is fun and rewarding, especially when this gets your character fully powered up and racking up some insane combos.

*The World Ends With You* delivers some excellent graphics, pushing the DS to its maximum abilities. The Japanese Pop tunes are catchy and punchy.

In the end, the entire game feels like a project that the developers wanted to create for a long time, and what a fantastic world they have brought forth. The story is filled to the brim with delicious twists and turns, all the while powered by comic-like visuals.

This game is a must-have for anyone, even if you do not like RPG titles. Beware though, the fighting system has a steep learning curve; but once you master it, there is nothing on the DS which is as addictive. Here's hoping there's a sequel in the works...

### Kirby Canvas Curse

Mario always ruled the roost in the Nintendo family, while Kirby was the ignored stepchild. Then again, maybe this was because Mario was a plumber, had a hot girlfriend and well, Kirby was a pink blob with hands and legs.

But it looks like Kirby has got his revenge with his latest title, *Canvas Curse*!

While the *New Super Mario Brothers* was excellent, *Kirby Canvas Curse* ups that tenfold, and slaps it around like yesterday's dessert. This is platforming at its very best.

As with most platformers, the story is pretty inconsequential. You probably will not even pay much attention to it, and all that you will remember is that



While the box art and the pink cute creature might fool you into avoiding Kirby Canvas Curse, think again

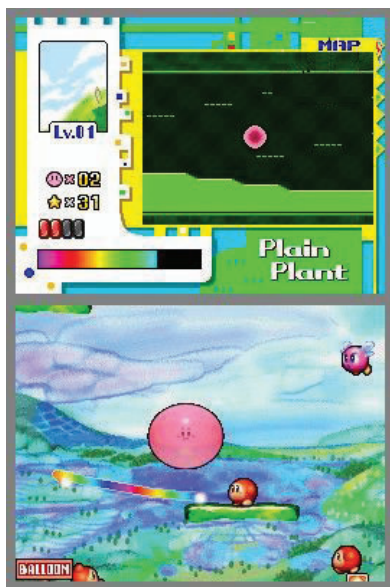
it's something about Kirby, who is somehow trapped in a canvas.

The gameplay, though, is where the Canvas Curse shines, making full use of the touchscreen in an insanely addictive style.

The idea is cool, yet simple: you guide Kirby around the levels, tapping it to jump or accelerate, like Sonic the Hedgehog. You then draw lines on the screen with your special rainbow ink, to curve it in an arc, or to move it over an obstacle. Your pen consumes rainbow ink, so be careful and use with caution. However it does recharge over time.

Nintendo has also thrown in special abilities, such as the wheel Power-Up which suddenly has Kirby sticking to the ground and mowing anything in its path. The electric ball shoots out a line of energy, instantly frying all the baddies. The bubble Power-Up makes Kirby float up until you tap to pop. Of course, the game has a lot more abilities to discover and play around with.





The level design is way more diverse than an average Mario palette. From beautiful hand crayon drawn outdoors and pencilled indoors to futuristic vector-like drawings, the levels are chirpy and well thought out, with traps laid out diabolically but not frustratingly.

The game also follows the classic line of putting a boss battle at the end of a level, giving old-school gamers a dose of the 'good old days'.

While the box art and the pink cute creature might fool you into avoiding this and going to pick up the terrifying Pokemon games, think again. Give this a whirl, you won't be disappointed.

### 3.5 What to Buy?

Just as in the case of video game consoles, handheld consoles have no clear winner. In fact, the two consoles are so vastly different that any comparison between them is almost ridiculous.

When you decide to buy a handheld, the first question to ask yourself would be: "What am I going to use it for?"

#### 3.5.1 FOR MULTIMEDIA

As we have noted throughout this Fast Track, the PlayStation Portable is great as an all-round multimedia and gaming tool, while the Nintendo DS and even the DSi don't really offer much in this regard.

The PSP's large 4.3-inch LCD screen is great for watching movies while on the move, rendering crisp and clear pictures. The fact that it supports all the common formats for video playback, such as DivX, AVI, MPEG-4, etc. goes a long way to ensuring that almost anything you throw at it will perform well.

The sound quality is quite high too, as should be expected from the company that invented the Walkman! The device is great to use as your primary portable audio player, and the support for MP3 and AAC formats should cover the desires of most users.

For photo-viewing, the gizmo supports JPEG, GIF and PNG formats so that you can view all your pictures easily. The Go! Edit software will also allow users to manipulate and edit their images if they so desire.

The PSP also connects to the PlayStation 3, letting you transfer movies and



play audio quite easily through the console.

The one place where the PSP falters is storage space. While Sony has made provisions to support Memory Stick Micro cards of up to 16 GB in size, the cards themselves remain quite expensive. Additionally, most modern PMPs (personal media players) like the iPod offer more storage space for users with vast audio and video collections.

Still, when compared to the DSi, which offers nothing more than a substandard audio player, the PlayStation Portable is the definite winner in this round.

### 3.5.2 FOR GAMING

#### Serious Gaming

In a way, the PlayStation Portable brought serious gaming to the handheld genre, so it was always going to be the weapon of choice here.

From the layout of the controls to the hardware it packed, the PSP was always intended to be something that a gamer can carry around with him for intense gameplay, and not just play around with a plumber who likes to jump on turtles and run through pipes.

Some of the popular titles for the PSP, such as God of War: Chains of Olympus and Burnout Revenge, have taken the graphics and gameplay of handheld gaming to a whole new level. Our prediction is that the DS will never be able to catch up to this.

#### Social Gaming

As with the Wii being superior in all things 'fun', the DS easily outclasses the PSP for lighter gaming. If you are looking for quick and easy games to play while travelling, which require very little concentration and just let you have a good time, put your money on the Nintendo DS.

Apart from the innovative touchscreen offering a cool twist on the normal style of gameplay, it also makes the features that surround gaming a lot more fun.

While social interaction during multiplayer gaming is available on both the PSP and the DS, the experience on the latter is a lot cooler than that on Sony's gadget.

It should be noted that if you are going to buy a Nintendo DS in India, the chances are high that you might have to shell out a lot more than on the PlayStation Portable.


Sony has officially launched the PSP in India and continually updates its line as new iterations of the console come out.

Nintendo, on the other hand, has never officially released its product in India and is mostly available through third-party dealers and the grey market.

So if something goes wrong with your PSP, you are fully covered by the

warranty; but with the DS, either you will have to send it back to whichever country you officially purchased it from, or take it to a local grey market to get it fixed.

Titles for the two consoles also face the same problem, with the PSP having a truckload of titles readily available at decent rates. A DS cartridge, meanwhile, will cost you almost as much as an official PSP UMD.

All in all, unless you are fine with dealing with the grey market and the constant risk of being hoodwinked that comes with it, the Nintendo DS or DSi is not an advisable option in India. 



## **4 The future of gaming**

While we discuss all the technologies that are already available, it is what lies ahead for the video gaming world that deserves more print space. Intel's former President Gordon Moore has made a famous prediction that has come to be known as Moore's Law, where he stated the number of transistors you could fit on a circuit of a certain size double every two years or so.

This leads to the current trend of faster processors and GPUs that we see coming out every year. As hardware progresses, its applications in the gaming industry obviously multiply manifold. With a field that is a mash-up of creativity and technological skill, it leads to new and different ways of using what one person has manufactured.

It is not possible to predict just what exactly the next generation of video game consoles will turn out to be. What we can put our finger on, though, are the trends that seem to be emerging...

### **4.1 Motion Sensing**

The greatest example of what we mean by predicting trends but not predicting actual applications can be seen in the current example of motion sensing in video games. Given all the hype around us, it seems that the Nintendo, with the Wii, is the propagator and inventor of the idea of using physical motion as a means to control virtual environments via high-precision sensors.

If you think about it, though, you will realise that the base idea has been around since Sony's PlayStation came out with the first EyeToy. After all, the thought being both was the same – use a sensor (one used a camera while another used infrared LED lights) to detect the motion of the gamer and translate it to the virtual environment he sees on screen, and letting him manipulate it freely.

The best application of the technology, so far, has been the Nintendo Wii and so we remember the Wii as “truly” bringing motion sensors to gaming.

It can fairly be argued that this is the trend that will define the technology behind the current lot of video game consoles, especially since at this year's E3, Sony and Microsoft unveiled their own takes on motion-sensing gaming. Let's take a look at the PlayStation Motion Controller and Xbox Project Natal.

#### **4.1.1 PlayStation Motion Controller**

Nobody had predicted that the Nintendo Wii would be the winner of this latest competition among three video game giants, but the motion sensitive WiiMote won over the hearts of many, many millions. Sony wants in on the action and so has unveiled its own Motion Controller.

Shaped like a wand, the technology is dependant on the PlayStation Eye, much like the Wii depends on the Sensor Bar.

The PlayStation motion controller features an orb at the end which can glow in a full range of colours according to the RGB colour model using LEDs. The coloured light serves as an active marker, the position of which can be tracked along the image plane by the PlayStation Eye.

The uniform spherical shape and known size of the lights also allows the system to simply determine the wands' distances from the PlayStation Eye through the image size, thus enabling the wands' positions to be tracked in three dimensions. Combined with internal motion sensors, such as accelerometers and gyroscopes, this allows for highly accurate real-time motion capture with orientation in three dimensions.

The simplicity of the sphere-based distance calculation allows the controller to operate with minimal processing lag, as opposed to other camera-based control techniques on the PS3.

The PlayStation motion controller will feature buttons on the wand, as well as vibration-based haptic technology. In addition to providing a tracking reference, the wand's orb light can be used to simulate aesthetic effects, such as the muzzle flash of a gun, or the paint on a brush.

Using different orb colours for each controller, up to four wands can be tracked at once with the PlayStation Eye. Demonstrations of the controller have featured activities using a single controller, as well as those in which the user wields two controllers, with one wand in each hand.

#### 4.1.2 Project Natal

While Nintendo and Sony battle it out to figure out whose motion-sensitive controller is better, Microsoft has more ambitious plans with Project Natal – an add-on for the Xbox 360. It sounds like an exaggeration right now and perhaps we are placing our expectations a bit high, but we dare say that this generation of consoles will be remembered more for the Project Natal's motion-sensing technology than the Nintendo Wii and its WiiMote.

It all started with a subtle hit by Microsoft's founder and ex-CEO Bill Gates during a free-wheeling chat at the AllThingsD conference in 2007, when he casually remarked: "Imagine a game machine where you're just going to pick up



Using different orb colours for each PS3 motion controller

the bat and swing it or the tennis racket and swing it.” The interviewer teased him, saying that the Wii already does that.

“No, that’s not it. You can’t pick up your tennis racket. And swing it,” Gates retorted. “You can’t sit there with your friends and do those natural things. That’s a 3D positional device. This is video recognition.”

Cut to two years later and at the E3 game developers’ conference, Microsoft unveiled its foray into the motion-gaming world – the 3D body-tracking Project Natal.

With this new technology, MS had brought in a few stereoscopic cameras to do away with the controller itself! That’s right, Project Natal can be operated completely by using gestures of your hands or any object, without the need to even touch the controller.

In 2008, Microsoft had bought out an Israeli firm named 3DV systems, that specialised in motion-tracking cameras. Their technology has often been cited to be the backbone of the Natal system, which uses a sensor bar akin to the Nintendo Wii’s.

The Project Natal sensor is an approximately 9-inch wide horizontal bar, that is designed to be positioned lengthwise above or below the video



Microsoft’s 3D body-tracking Project Natal system for the Xbox 360 promises to revolutionise gaming, and possibly computing too



display. The device features an RGB camera, depth sensor, multi-array microphone, and a custom processor running proprietary software, which provides full-body 3D motion capture, facial recognition, and voice recognition capabilities.

The Project Natal sensor's microphone array enables the Xbox 360 to conduct acoustic source localisation and ambient noise suppression, allowing for things such as headset-free party chat over Xbox Live.

The depth sensor consists of an infrared projector combined with a monochrome CMOS sensor, and allows the Project Natal sensor to see in 3D under any ambient light conditions. The sensing range of the depth sensor is adjustable, with the Project Natal software capable of automatically calibrating the sensor based on gameplay and the player's physical environment, such as the presence of couches.

At E3 2009, the MS team demonstrated a skeletal mapping technology that is capable of simultaneously tracking up to four users for motion analysis, with a feature extraction of 48 points of interest on a human body at a frame rate of 30 hertz.

In fact, depending on the person's distance from the sensor, Project Natal is capable of tracking models that can identify individual fingers!

Although no official release date has been set for the technology, Microsoft is expected to release it sometime in 2010.

## 4.2 Stereoscopic 3D Games

While video game technologies are rapidly progressing with new graphics cards and faster processors, the output module has remained the same – a television set. However, it is not as if the TV industry has remained placid; we have seen the conversion from CRT-based bulky sets to thin LCD screens, and the jump from standard 4:3 video to HD and full HD resolutions.

The next jump being predicted is the jump to stereoscopic 3D television, possibly without the use of those red-and-blue 3D glasses. Whether the glasses will stay or go is a discussion for another forum, but what is certain is that making standard TVs render stereoscopic 3D images is definitely on the anvil. And the gaming industry would be the ideal platform to capitalise.

Imagine a combination of Project Natal and such a stereoscopic 3D TV, where you act out a boxing



Whether the red-and-blue glasses will stay or go is irrelevant; what is certain is that making standard TVs render stereoscopic 3D images is definitely on the anvil, and the gaming industry would be the ideal platform to capitalize on this

match in first-person view and really get the arm of your opponent jumping out of the screen and right at your face! Simply brilliant!

And a lot of graphics manufacturers and researchers are already working on making this happen, as 3D is seen as the future of video game software.

In December 2008, the CTO of Blitz Games announced that they would bring stereoscopic 3D gaming and movie viewing to the Xbox 360 and Playstation 3 with their own technology. Stereoscopic 3D games were first demonstrated publicly on the PS3 in January 2009 at the Consumer Electronics Show. Journalists were shown *Wipeout HD* and *Gran Turismo 5 Prologue* in 3D as a demonstration of how the technology might work if it is implemented in the future.

Nvidia, on the other hand, has already been working overtime to get 3D gaming out and about. The company has already come out with its Nvidia 3D Vision kit, that relies on a pair of custom glasses (and no, they don't look like the ridiculous red-and-blue ones), an underlying software and compatible Nvidia hardware.

The company has previously stated that it is in talks with video game developers and console manufacturers about integrating the technology in the next generation of devices.

Last year, Oscar-winning director James Cameron was quoted as saying that Ubisoft had already developed a stereoscopic 3D game for the Xbox 360 and got it working. The title in question was the game based on Cameron's upcoming 3D film, *Avatar*.

While it is not known whether the next generation of games will be using stereoscopic 3D as a mainstay of all its games or not, one thing is for sure – this is one technology that is bound to hit gamers in the near future.

### 4.3 Brain-computer interfaces

Motion-sensitive gaming is great and definitely a very real part of the future of video games. The world of gaming is unlikely to be going into the field of touch-sensitive screens, as the technology has pretty much skipped that for the next generation of user interface with Project Natal – gestures.

Similarly, most technology pundits are predicting that voice-based interfaces will be the next thing in how you use your computer. While the idea might suit simply daily operations, it simply is not rich enough to encompass the complex mechanisms of playing a video game.

Honestly, can you imagine shouting “Shoot!” to start firing and “Halt!” to stop, with intermediary bursts of “Duck!”, “Take cover!” and “Retreat!”? Apart from an absolutely absurd and loud way of playing a game, it would also completely ruin the concept of multiplayer chatting.

So it makes sense that if computers decide to go with speech recognition technologies for their interface, video games will again be skipping this one and moving on to a much cooler alternative: controlling your character by just using your thoughts!

Scientists have long been working on brain-computer interfaces, with success stories



The Emotiv Epoc headset reads your thoughts and translates them into action, letting you play a game just by thinking about it!

of monkeys controlling robots, people controlling wheelchairs and much more.

The technology is based on electroencephalography (EEG), in which the user wears a hat with a bunch of electrodes that track the electrical signals being given out by your brain.

Initially, the user has to program the device to understand how his brain's electrical signals fire – a process calling 'mapping'. Once the EEG cap is mapped to a certain user, scientists say it can accurately detect their thoughts.


One company using this technology in the field of gaming is Australia-based Emotiv, which is getting ready to launch its Epoc headset later this year. The Emotiv Epoc has been making the rounds of various game developer conferences and other events as a way to "game with your thoughts".

Prototypes of the device have already been demonstrated on Windows PCs. Due to the complex detection algorithms involved, there is a slight lag in detecting thoughts, making the device more suitable for use in games like Harry Potter than FPS games.

The Emotiv Epoc is currently not meant for video game consoles, instead preferring to concentrate on PC gaming. However, the company has stated that it is looking at working with major console manufacturers.

While the Epoc might not be ready for prime-time yet, the underlying technology behind it remains tried and tested. It is a viable alternative, and the scenario of controlling an entire game just by using your thoughts alone is extremely tantalising.

Apart from changing gameplay itself, the technology could also open up the field of video games to the physically disabled as well as paralysed patients.

We can only imagine... 

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